KINGDOM OF CAMBODIA
NATION RELIGION KING

MINISTRY OF HEALTH

National Cancer Control Plan 2025-2030

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Foreword

The Royal Government of Cambodia of all the previous legislatures of the National Assembly has always considered the health care sector and the welfare of the Cambodian people as one of the utmost priorities. With this regard, many strategies and policies were developed and there was a remarkable upgrade in health care system resulted in continuous improvement in the people's health care status. Likewise, the Royal Government of Cambodia of the 7th legislature of the National Assembly has developed the "Pentagonal Strategy" of which one of the top priorities focuses on "expanding health care service towards the universal health coverage".

Regarding the health care sector in Cambodia, cancer is one of the four non-communicable diseases that have been prioritized. Increasing efforts have been made to prevent and control these diseases. However, cancer remains a significant public health challenge that profoundly impacts individuals, families, communities, and society at large. The disease disrupts daily activities, diminishes productivity, and incurs substantial health care costs, which in turn exert a detrimental effect on the economic stability and development of the nation. The extensive burden of cancer is complex and necessitates more attention and comprehensive solutions from all stakeholders. In this context, the Royal Government of Cambodia supports the ministry of health to develop the National Cancer Control Plan with the aim to reduce the incidence of preventable cancers and premature cancer-related deaths, and improve patient survival rates and quality of life for both patients and their families. It defines six strategic objectives to improve cancer prevention, early detection, diagnosis, treatment and care. Successful implementation of this plan will not only reduce the burden of cancer but also contribute to the advancement of the health sector in pursuit of universal health coverage.

Therefore, I encourage all relevant ministries-institutions, particularly the ministry of health as well as all development partners, private sectors, and stakeholders to unite and join forces in implementing the National Cancer Control Plan to fight against this catastrophic condition. We are confident that this National Plan provides a strategic foundation for resource mobilization and sustained commitment from all stakeholders to ensure its successful implementation.

On behalf of the Royal Government of Cambodia, I sincerely appreciate and highly value the concerted efforts made by the Ministry of Health, its core team and the representatives of various ministries, institutions, organizations, and stakeholders for the development of this important plan.

Phnom Penh, April 29, 2025

Prime Minister

(Signature and Stamp)

Samdech Moha Borvor Thipadei HUN MANET

"The Royal Government of Cambodia is strongly committed to fighting cancer by enhancing public knowledge and expanding quality prevention, treatment, and care services to protect our population from preventable cancers and to relieve suffering and improve quality of life for the affected individuals and their families"

Preface

Cancer is an urgent and growing public health challenge in Cambodia. Cancer not only affects the lives of individuals and families, but also places a significant strain on our health system and national economy. If left unaddressed, its impact will continue to widen health inequities and hinder the attainment of our development goals.

In alignment with the recommendations of **Samdech Moha Borvor Thipadei HUN MANET, Prime Minister of the Kingdom of Cambodia**, who has called for stronger action on non-communicable diseases, the National Cancer Control Plan is an essential response to the rising burden of cancer — one of the leading causes of premature deaths in Cambodia. Recognizing the need for a comprehensive, coordinated, and evidence-based response, the Ministry of Health initiated the development of a National Cancer Control Plan 2025–2030. This Plan is a strategic roadmap to guide Cambodia in reducing the cancer burden, strengthening health system capacity, and ensuring equitable access to cancer prevention, early detection, diagnosis, treatment, palliative care, and survivorship support.

The vision of this plan is that Cambodia will become a country with a low cancer burden and high survival rates, where all people affected by cancer and their families can live with dignity and quality of life.

This plan was shaped through a consultative and participatory process involving technical experts of WHO, IAEA, and IARC, clinicians, researchers, national programs, civil society, development partners, and individuals affected by cancer. It reflects our collective commitment to a multisectoral approach - one that recognizes that cancer control is not the responsibility of the health sector alone but of all of society. More importantly, the National Cancer Control Plan aligns with Cambodia's commitments to universal health coverage, the Sustainable Development Goals, the WHO Global Strategy on Cancer, and regional frameworks under ASEAN and the Western Pacific Region. It supports the broader vision of a healthy, resilient, and prosperous Cambodia, where health is a foundation for sustainable development. This National Cancer Control Plan is a living document. It is intended to be regularly reviewed, updated, and refined in response to emerging evidence, technological advancements, changing disease patterns, resource availability, and implementation lessons.

On behalf of the Minister of Health of Cambodia, I would like to express our sincere appreciation to the expert teams from WHO, IAEA, and IARC for their invaluable support in conducting the Review on Cancer Control Capacity and Needs Assessment in 2023. This important review has served as a critical foundation for the development of Cambodia's National Cancer Control Plan. I also extend our heartfelt thanks to the core team of the Ministry of Health for their dedicated efforts in successfully developing the National Cancer Control Plan 2025–2030.

I, therefore, call upon all actors - in the public and private sectors, in academia and civil society, and in communities across the country - to join hands in translating this strategy into action. Together, we can make a lasting impact - reducing suffering, saving lives, and building a future where every Cambodian can live free from the avoidable burden of cancer.

Phnom Penh, April 24, 2025
Minister of Health

(Signature and Stamp)

Professor CHHEANG RA

"If there were only one thing I could change in cancer care in Cambodia, it would be early diagnosis so that patients could be treated timely and effectively."

Acknowledgements

On behalf of the Ministry of Health, I would like to appreciate and express sincere gratitude for the dedicated efforts of Excellencies, Ladies and Gentlemen, and all partners who have contributed to the leadership, coordination, and provision of technical inputs in the development of the National Cancer Control Plan 2025–2030, which has now been successfully finalized.

1. H.E HUN Chamroeun, Advisor to Samdech Prime Minister
2. H.E LO Veasnakiry, Secretary of State
3. H.E. HOK Kimcheng, General Director for Health
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17. Department of Drugs and Food
18. Department of Mental Health and Substance Abuse
19. Department of Communicable Diseases Control
20. National Center for Health Promotion
21. National Hospitals
22. University of Health Sciences
23. National Institute of Public Health
24. Provincial Departments of Health
25. Provincial Referral Hospitals
26. Non-government Hospitals
27. World Health Organization
28. International Atomic Energy Agency
29. St. Jude Children's Research Hospital
30. City Cancer Challenge
31. The Union for International Cancer Control

We would like to express our gratitude to the World Health Organization in Cambodia, City Cancer Challenge, and Roche for their generous support throughout all stages of the NCCP development.

Abbreviations

AJCC	American Joint Committee on Cancer
BMI	Body Mass Index
CCC	Comprehensive Cancer Center
CDC	Department of Communicable Disease Control
CMS	Central Medical Store
CT	Computed Tomography
CPC-NCD	Commission for the Prevention and Control of Non-Communicable Diseases
CPA	Complementary Package of Activities
CVD	Cardio-Vascular Diseases
DDF	Department of Drugs and Food
DDH	Department of Digital Health
DGH	Directorate General for Health
DHIS2	District Health Information Software – Second Generation
DHS	Department of Hospital Services
DNA	Deoxyribonucleic Acid
DPHI	Department of Planning and Health Information
DPM	Department of Preventive Medicine
DMHSA	Department of Mental Health and Substance Abuse
EML	Essential Medicines List
EMR	Electronic Medical Records
FIT	Fecal Immunochemical Test
GDP	Gross Domestic Product
GDT	General Department of Taxation
GFOBT	Guaiac Fecal Occult Blood Test
GS-NSPC	General Secretariat for the National Social Protection Council
HBV	Hepatitis B Virus
HC	Health Center
HBCR	Hospital-Based Cancer Registration
HEF	Health Equity Fund
HMIS	Health Management Information System
HPV	Human Papillomavirus

HRD	Human Resource Development
IAEA	International Atomic Energy Agency
IARC	International Agency for Research on Cancer
IMCI	Integrated Management of Childhood Illness
IMC-NCD	Inter-Ministerial Committee for NCDs
KHR	Khmer Riel
MDT	Multidisciplinary Team
MEF	Ministry of Economy and Finance
MLVT	Ministry of Labor and Vocational Training
MME	Ministry of Mine and Energy
MoEYS	Ministry of Education, Youth and Sport
MoH	Ministry of Health
MoI	Ministry of Information
MoSVY	Ministry of Social Affairs, Veterans and Youth Rehabilitation
MoWA	Ministry of Women's Affairs
NCCP	National Cancer Control Plan
NCDs	Non-communicable diseases
NCEH	National Committee for Environment and Health
NCHADS	National Center for HIV/AIDS, Dermatology and STIs
NCHP	National Center for Health Promotion
NC-TC	National Committee for Tobacco Control
NC-TWG	National Cancer Technical Working Group
NECHR	National Ethics Committee for Heath Research
NGO	Non-Governmental Organization
NHL	Non-Hodgkin Lymphoma
NIP	National Immunization Program
NIPH	National Institute of Public Health
NMCHC	National Maternal and Child Health Center
NPCC	National Program for Cancer Control
NSSF	National Social Security Fund
PBCR	Population-Based Cancer Registration
OD	Operational District
OOP	Out-of-Pocket

PD	Personnel Department
PET	Positron Emission Tomography
RGC	Royal Government of Cambodia
RH	Referral Hospital
SOP	Standard Operational Procedure
STEPs	WHO STEPwise approach to NCD risk factor surveillance
SWOT	Strengths, Weaknesses, Opportunities, Threats
UHC	Universal Health Coverage
UHS	University of Health Sciences
UICC	The Union for International Cancer Control
VIA	Visual Inspection with Acetic acid
WHO	World Health Organization

1 Introduction

1.1 What is a National Cancer Control Plan

A National Cancer Control Plan (NCCP) is a strategic framework designed to guide a country's efforts in systematic and equitable implementation of evidence-based strategies for prevention, early detection, diagnosis, treatment and palliation – cancer control continuum – making the best use of available resources, for a given duration, often from 5 to 10 years, taking into account the country health system and socio-economic context. The primary goal of an NCCP is to reduce cancer incidence and mortality, and improve the quality of life of people with cancer through a comprehensive and coordinated approach, thereby contributing to improved overall health and wellbeing of the population [1]. NCCP sets out vision, goals, objectives, strategies and strategic actions for cancer control with clear targets and indicators for monitoring and evaluation. The core components of cancer control have been described by Oar et al. [2] and in the WHO Cancer Control: Knowledge into action series for cancer prevention [3], early detection [4], diagnosis and treatment [5] and palliative care [6], reflecting what is recommended by the 70th World Health Assembly resolution on cancer prevention and control in the context of an integrated approach [7]. An effective NCCP should be developed through a comprehensive, participatory and evidence-based process which includes a good situation analysis.[1]

1.2 Cancer burden in Cambodia

In Cambodia, Non-Communicable Diseases (NCDs) are on the rise. The mortality due to NCDs in Cambodia increased from 52% in 2014 to 64% in 2018. The four most common NCDs are cardiovascular diseases, cancer, chronic respiratory disease and diabetes, accounting for 24%, 14%, 4%, and 2% of all deaths, respectively [8]. The Cambodian population has a 23% probability of dying between the ages 30 and 70 years from one of the four main NCDs.

According to the estimation by the International Agency for Research on Cancer (IARC),[2] there were 19,795 new cancer cases (9,171 in men and 10,624 in women) in Cambodia in 2022. Table 1 summarizes top five most frequent cancer sites in Cambodia. For men, liver was the most common type of cancer (26.1%), followed by lung (15%), colorectum (8.9%), leukemia (3.9%), and Non-Hodgkin lymphoma (NHL) (3.6%), whereas the top five cancer sites in women were breast (19.9%), cervix uteri (12%), liver (10.4%). For both sexes, liver is the most common (17.7%), followed by lung (10.9%), breast (10.7%), colorectum (8.7%), and cervix uteri (6.4%). These cancers are mostly preventable through addressing modifiable risk factors, as well as screening and early diagnosis. The estimated number of deaths from cancers in 2022 was 13,799 (7,150 in men and 6,649 in women) and this number is expected to increase by 40% by 2030. In line with the global pattern, cancers in the elderly people aged 65 years and above account for a large proportion of all cancers in Cambodia, and is estimated to increase nearly threefold by 2035 and much faster than neighboring countries [9]. Available estimated data from Global Initiative for Childhood Cancer suggests that in Cambodia there were 553 cancer cases among children aged 0-14 years in 2020. The most common one is acute lymphoblastic leukemia which accounts for nearly 30% of all cases (Table 2).

[1] https://www.uicc.org/news/what-effective-national-cancer-control-plan

[2] Global Cancer Observatory data 2022, version 11, accessed on 08/02/2024: https://gco.iarc.who.int/media/globocan/factsheets/populations/116-cambodia-fact-sheet.pdf

Table 1: Top five most frequent cancer sites in Cambodia (2022 data)

Rank	Cancer Site	Number of Cases	Percentage of Total Cases
Top 5 most frequent cancers for males			
1	Liver cancer	2,394	26.1%
2	Lung cancer	1,374	15.0%
3	Colorectum cancer	812	8.9%
4	Leukemia	356	3.9%
5	Non-Hodgkin Lymphoma	330	3.6%
	Others	3,905	42.6%
Total males		**9,171**	**100%**
Top 5 most frequent cancers for females			
1	Breast cancer	2,116	19.9%
2	Cervix uteri cancer	1,274	12.0%
3	Liver cancer	1,130	10.4%
4	Colorectum cancer	914	8.6%
5	Lung cancer	787	7.4%
	Others	4,430	41.7%
Total females		**10,624**	**100%**
Top 5 most frequent cancers for both sexes			
1	Liver cancer	3,497	17.7%
2	Lung cancer	2,161	10.9%
3	Breast cancer	2,116	10.7%
4	Colorectum cancer	1,726	8.7%
5	Cervix uteri cancer	1,274	6.4%
	Others	9,021	45.6%
Total both sexes		**19,795**	**100%**

Source: Global Cancer Observatory
https://gco.iarc.who.int/media/globocan/factsheets/populations/116-cambodia-fact-sheet.pdf

Table 2: Cancer cases (0-14 years old) in 2020 by Global Initiative for Childhood Cancer

Rank	Cancer cite	Annual Cases (0-14 years old)	Percentage (%)
1	Acute lymphoblastic leukemia	164	29.66
2	Hodgkin lymphoma	28	5.06
4	Wilms tumor	26	4.70
5	CNS, low grade tumors	18	3.25
6	Retinoblastoma	18	3.25
7	Burkitt lymphoma	5	0.90
	Other childhood cancer	294	53.16
Total		**553**	**100%**

Source: https://www.iccp-portal.org/system/files/plans/KHM_2020.pdf

Cancers and other NCDs are not only a health issue but also an economic concern. Based on the estimation by Kulikov and colleagues [10], in addition to direct cost, the total cost of premature deaths due to cancers in Cambodia in 2019 was US$ 1.1 billion. Therefore, reducing cancer burden is crucial to ensure health and well-being for all Cambodians, maintain rapid country economic growth, and achieve the Sustainable Development Goals.

Table 3 presents behavioral and biological risk factors of cancer among adults aged 18-69 years in 2023 in Cambodia as reported by the STEPS survey 2023 [11]. Tobacco use is the leading cause of cancers, particularly lung, throat and mouth cancers, whereas high alcohol intake is associated with various cancers, including breast, liver, and esophageal cancers.

Table 3: Prevalence of behavioral and biological risk factors of cancer among adults aged 18-69 years, 2023

Description	Both sexes	Male	Female
Percentage who currently smoke tobacco	19.4%	35.5%	2.4%
Percentage who currently smoke tobacco daily	16.1%	29.4%	2.1%
Percentage who currently drink (drank alcohol in the past 30 days)	50.0%	71.2%	27.5%
Percentage who engages in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days)	24.5%	49.5%	3.2%
Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent)	9.3%	7.5%	11.1%
Percentage who ate less than 5 servings of fruits and/or vegetables on average per day	80.7%	81.9%	79.5%
Overweight (BMI>25 kg/m^2) (%)	19.4%	17.5%	21.5%
Obese (BMI>/=30 kg/m^2) (%)	4.3%	2.9%	5.7%

Sources: STEPS survey report 2023 [11]

In Cambodia, despite improvement, the prevalence of tobacco use remains high among men with 35.5% of adult men aged 18-69 years currently smoking tobacco and 29.4% currently smoking daily in the past 30 days, compared with only 2.4% and 2.1% respectively. Half of Cambodian adults aged 18-69 years (71.2% for men and 27.5% for women) currently drink alcohol and 49.5% of men engage in heavy episodic drinking compared to only 3.2% among women. The prevalence of insufficient physical activity remains relatively low, but overweight is relatively high, and higher among women (21.5%) than men (17.5%). Diets low in fruits, vegetables, and other plant-based foods can lead to the deficiency of essential vitamins, minerals, and antioxidants that help protect against cancer. However, 80.7% of Cambodian adults eat less than five servings of fruits and/or vegetables on average per day.

1.3 Current cancer control landscape in Cambodia

1.3.1 Cambodian health system overview

The health system in Cambodia consists of a public sector and a fast growing private sector [12]. The public sector is structured under operational districts (ODs). Each OD has some 10 – 20 health centers (HCs) and one referral hospital (RH) serving approximately 100,000-200,000 people. HCs provide primary care services, namely Minimum Package of Activities (MPA) [13, 14] to about 8,000-12,000 people each, whereas RHs deliver the so-called Complementary Package of Activities (CPA) [15]. The latter is classified into three levels of services: CPA1, CPA2 and CPA3. By 2023, there were 12 national hospitals at national level, 25 provincial/municipal RHs[3] at provincial level, and 96 district RHs and 1,305 HCs at district level. In total, there were 133 hospitals divided into 33 CPA3 RHs, 39 CPA2 RHs and 61 CPA1 RHs [16]. Along with the public health facilities, there are growing private sector health care providers, including private hospitals, polyclinics, clinics, cabinets, pharmacies and non-medical practitioners. By 2023, there were officially registered 17,988 private health care facilities, including 27 private hospitals, 104 polyclinics, 798 clinics and 16,776 cabinets as well as 3,433 private pharmacies [16]. A large proportion of the private health care facilities are located in Phnom Penh and major cities. The public health facilities are leading in the promotion and prevention activities for essential reproductive, maternal, neonatal and child health and major communicable diseases, such as vaccination for children, family planning, birthing care, antenatal and postnatal care, the prevention and case management of HIV/AIDS, tuberculosis and malaria [12, 16-18], whereas the private sector providers are predominantly used by the Cambodian population for curative care when they get sick and injured, including care for NCDs [12, 19, 20]. In addition to facility-based health care services, there are also health care services provided in the community or at home by community health volunteers. These include, but not limited to, home-based care for people living with HIV/AIDS, community DOTS for tuberculosis, village-based care for malaria by village malaria workers, diabetes and hypertension care provided by peer educators, and other public health services by village health support groups that link the community to health centers [21, 22].

Significant progress has been also made in health workforce development, including the achievement of universal coverage of midwives at health centers, and increasing number of health professionals being produced, recruited and deployed in public health facilities nationwide [23]. However, according to the WHO norms, the Cambodian health sector is still considered to be understaffed, especially for physicians, including specialists. While the minimum threshold of health workforce requirement for achieving universal health coverage (UHC) and sustainable development goals is 44.5 skilled health workers (physicians, nurses, and midwives) per 10,000 population, available data shows that Cambodia's skilled health workers (in both public and private sectors) is 28.8 per 10,000 population in 2023, suggesting a gap of 26,763 skilled health workers. Currently, health centers are mainly operated by nurses and midwives, and only a few of them have a physician. Many referral hospitals lack not only general physicians and but also specialized workforce, including surgeons and specialists in anesthesia and resuscitation to ensure quality emergency care, and other specialized services. This challenge is furthered by the high proportion of dual practice and maldistribution [12]. While there are 7 public and 12 private health professional education institutions, programs for specialist physicians are only provided by the University of Health Sciences. In Cambodia,

[3] Some of which are being upgraded to regional hospitals with service capacity similar to national hospitals

there are five professional councils for physicians, nurses, midwives, pharmacists and dentists but there are no specific formal councils for specialist workforce yet.

Cambodia has a mixed health financing system, combining government tax-based financing, private contribution through out-of-pocket payments (OOP) and health insurance premium, and development assistance for health or external funding. Despite increasing government funding and social health protection coverage (about 43% of the population are covered by the National Social Security Fund's social health insurance and Heath Equity Fund), OOP remains high, accounting about 55% of the current health expenditure in 2021.[4] This large OOP prevented many Cambodian poor and vulnerable to timely seeking and receiving needed health care and caused financial catastrophe and impoverishment for those who sought and paid for health care [24-27], especially for cancer care [28]. This suggests that along with efforts to scaling up cancer care services, there is also a need for defining a list of essential cancer screening, diagnosis, treatment and care services, including medicines, and advocate it to be covered by the existing social health protection schemes.

In Cambodia, there is a national Essential Medicines List (EML) of medicines and consumables, which is a vital tool to strengthen and standardize treatment of common health conditions for both public and private sectors, a basis for prescribing and dispensing as well as recommended priorities for procurements and distribution. The medicines and consumables are selected and included in EML by a National Committee for Essential Medicines based on efficacy, safety and cost-effectiveness as recommended in the WHO model list and needs for priority health conditions prevailing in the country. Usually, the national EML is to be revised every two years. The current national EML developed in 2023 includes 335 items of essential medicines, 176 items of essential consumables, 16 items of essential diagnostics, 86 items of microbiology and 10 items of essential medical devices divided into four categories for HCs (MPA) and RHs (CPA1, CPA2 and CPA3). There are 14 antineoplastic and immunosuppressive medicines in the EML. Compared with the WHO model list and the real needs in practice in Cambodia, a number of essential antineoplastic and immunosuppressive medicines should be added into the EML when is possible. The list also contains three opioid analgesics including morphine. Necessary medicines and consumables (including medical devices) to be supplied to public sector health facilities are commonly procured at central level by an MoH's procurement unit under the leadership of MoH in consultation with the Ministry of Economy and Finance. Such procurement focuses on items listed in EML according to the need (as requested through a bottom-up planning) and available budget. Necessary medicines and consumables that are urgently needed but not listed in EML could also be procured under a special approval by MoH on a case-by-case basis. The procured items are then stored at a Central Medical Store (CMS) before being further supplied to public sector health facilities. In addition to the central procurement and supply, the public sector health facilities are also allowed to use their available budget and revenues to purchase necessary medicines and consumables to bridge the central supply gaps.

There are a number of fragmented health information systems in Cambodia, including a web-based health management information system (HMIS)[5] that collects monthly health service data mostly from HCs and RHs, using standard data collection forms, HC1 for HCs and HO2 for RHs. Both HC1 and HO2 include variables on breast self-examination and education, and cervical cancer screening. In addition, HO2 includes 26 cancer diagnoses. However, this is

[4] https://apps.who.int/nha/database/country_profile/Index/en
[5] http://hismohcambodia.org/public/index.php

aggregated data and the quality of cancer related data remains questionable, and therefore, has limited usefulness for cancer control program. While efforts have been made to develop an electronic medical record (EMR) for NCDs, there is still no functioning EMR for NCDs and cancer yet. MoH is planning to adopt the DHIS2 to develop a national EMR and introduce to all health facilities. Some progress has been made in developing population-based cancer registry in Phnom Penh (See Chapter 1.3.3).

Table 4: Cancer care interventions and services provided by public health care facilities

Providers	Cancer care interventions	Specific cancer services
Health centres	- Primary prevention - Early case detection (screening) & referrals	- Education & counselling on behavioral risk factors - Hep B & HPV vaccination - Hep C screening & referrals - Cervical and breast (tumor) cancer screening and referrals
District & provincial RHs	- Basic & medium diagnostic investigation - Essential care & treatment	- Hep C diagnosis and treatment - Diagnostic imaging services: X-ray & ultrasound & exceptionally mammography & CT-scan - Thermal ablation of VIA+ clients - Surgery
National hospitals (Some with an oncology department)	- Medium & advanced diagnostic investigation - Comprehensive & specialist treatment and care	- Basic and advanced diagnostic imaging, including MRI (& soon PET scan) - Pathology & cancer biomarkers tests - Comprehensive treatment and care, including clinical & surgical oncology, radiotherapy, chemotherapy and palliative care

Varying services for cancer prevention, screening, diagnosis, treatment and care are provided by both public and private health care facilities. Table 4 summarizes cancer care interventions and services to be provided by public health care facilities in Cambodia. There are also some private clinics and hospitals providing cancer-related services. These include HPV and Hep B vaccines, HPV test, PAP smear and biopsy for pathological examination, imaging services, and surgical interventions, and some with specialized cancer diagnosis and treatment. The situation and coverage of cancer prevention, early detection, diagnosis, treatment and care are described in the following section 1.3.4, 1.3.5, 1.3.6, 1.3.7, and 1.3.8 below.

1.3.2 National cancer control planning and governance

Essential governance structures and policies surrounding cancer control have been developed as part of a broader NCD governance structures and policies. These include an NCD dedicated

unit within the MoH's Department of Preventive Medicine (DPM), the National Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2022-2030 [29], a Multi-Sectorial Action Plan [30] with a Commission for the Prevention and Control of NCDs (CPC-NCD) being recently created [31], and a special budget was allocated for boosting NCD prevention and control activities. However, there is no cancer specific control plan and governance structure, such as a National Cancer Control Plan (NCCP) and a dedicated management team to lead the NCCP implementation, monitoring and evaluation, a National Program for Cancer Control (NPCC).

1.3.3 Cancer registration and surveillance

Cancer surveillance capacities in Cambodia remains limited and need to be enhanced. A certain scope of cancer data is being collected at two main national hospitals that provide cancer treatment in Cambodia, Calmette Hospital and Khmer-Soviet Friendship Hospital until 2024. However, necessary data for estimating cancer incidence, mortality and survivorship remains missing, and the current cancer incidence and mortality in Cambodia is estimated using data from neighboring countries. This indicates an urgent need to have a reliable population-based and hospital-based cancer registration system for cancer surveillance in Cambodia. In late 2023, a special working group for cancer registries was created to lead the development of a population-based cancer registration system in Cambodia. After a quick situation analysis, Canreg-5 software has been introduced as a pilot in 15 cancer care facilities in Phnom Penh capital city, including 7 national hospitals, 4 NGO facilities, 3 private clinics and 1 laboratory, and cancer related data is being collected in these facilities. Standard operating procedures for population-based cancer registry are being developed and expected to have the final version launched in 2025.

However, the registration for childhood cancer can be challenging because the number of cases is not big and correct diagnosis for childhood cancer requires expertise in very specialized centers or hospital treating children with cancer. Additionally, the childhood cancer staging does not follow neither UICC nor AJCC TNM staging as in adult cancer. In May 2020, St Jude Children's Research Hospital and IARC launched a bilateral collaborative agreement called "Targeting Childhood Cancer through the Global Initiative for Cancer Registry Development (ChildGICR).[6] The agreement complements and supports the World Health Organization Global Initiative for Childhood Cancer which was launched in 2018 [32]. To join this global effort, Cambodia can establish both hospital-based cancer registry (HBCR) and population-based cancer registry (PBCR) for childhood cancer through the collaboration with key partners in the initiative and agreement.

1.3.4 Primary prevention

The interventions to prevent cancers by addressing risk factors, including the prevention and treatment of infectious diseases associated with cancer and key behavioral risk factors such as tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity are highly prioritized and increasingly scaled up by various stakeholders in Cambodia, including the Ministry of Health's Department of Communicable Diseases Control (CDC), the DPM the Committee for the Prevention and Control of NCDs, the National Immunization Program and the National Center for Health Promotion as well as other line ministries and health partners.

[6] https://gicr.iarc.fr/

Hepatitis B vaccination is provided free of charge on a routine basis, mainly through HCs, to targeted children as part of the national immunization program (NIP) with nearly 100% coverage of three doses of hepatitis B as part of pentavalent vaccine [16], along with expansion of hepatitis C case identification and treatment to prevent liver cancer. HPV vaccination is also included in the NIP and provided free of charge to 9-year-old girls, mainly at schools, for cervical cancer prevention. The adoption and implementation of tobacco control measures and enforce existing legislation are considered successful in Cambodia. However, other interventions to address behavioral risk factors remain to be further strengthened and expanded. A draft of alcohol control legal document is still pending for government endorsement, while new measures to control advertising of alcohol has been put in place in October 2024, and in the early stage of implementation. Messages promoting healthy diets (e.g. less sugar, less salt and less fat) and physical activities are being increasingly disseminated countrywide through call tunes, media, and social media as well as in the community, but these efforts are still in the early stage and may vary in different places and times.

1.3.5 Early detection

Early detection include screening among targeted population groups and early diagnosis among those who have cancer predictive signs and symptoms [33]. In Cambodia, most of the cancer patients are detected at an advanced stage of disease. Therefore, early detection would increase the chance to cure it, and improve the effectiveness and efficiency of the treatment and care. Cervical cancer, ranked number 2 among women, has a particular focus in the Ministry of Health with clear advances under the National Action Plan for Cervical Cancer Prevention and Control 2019-2023 and a specific sub-technical working group [34]. The latest available data provided by DPM shows that cervical cancer screening using VIA has been introduced (with trained midwifes and necessary materials and equipment) in 816 health centers, about 63% of all health centers in the country. However, the STEPS survey 2023 showed that only about one fifth of Cambodian women aged 30-49 years having received at least one screening test for cervical cancer [11], which suggests a need for further efforts to improve the screening strategies and methods. In addition, attention should also be made to other common cancers that can be early detected, and effectively and efficiently treated on time, such as breast cancer and colorectal cancer. However, there is no screening program for these types of cancers yet. Midwifes at 949 health centers (73% of all health centers) are trained on breast examination. They are tasked to take the opportunities during diabetes and cervical cancer screening as well as antenatal care consultation to conduct breast examination and educate women to do breast self-examination. There is no particular policy recommendation for breast cancer screening with mammography yet.

1.3.6 Cancer diagnosis

Essential cancer diagnosis services include pathology and laboratory medicine services, diagnostic imaging and nuclear medicine.

Pathology and laboratory medicine services:

Pathology and laboratory diagnostic services play a crucial role in making a diagnosis, guiding treatment, informing prognosis, monitoring treatment outcomes, and contributing to public health surveillance and disease registries. In Cambodia, departments of pathology and laboratory medicine, including those in major hospitals, are well-equipped with basic facilities and perform essential services. However, they focus on essential pathology and laboratory services. Both expansion and modernization are required for not only helping compensate for

the current human resources shortages but also facilitating use of more specific cancer diagnosis tests. In addition, there is a shortage of pathologists and pathology technicians, and the majority of them are concentrated in the capital city Phnom Penh. A long-term plan for recruiting and training pathology workforce within the country is needed.

Diagnostic imaging and nuclear medicine:

Radiology imaging is essential for cancer management. Although there is no known data on the number of imaging equipment in the whole country, ultrasound machines are widely available in public referral hospitals, though the quality of such imaging services requires improvement. Major public provincial and national hospitals in Cambodia have essential radiology equipment, including provision and access to X-ray, mammography, computed tomography (CT) which are essential cancer imaging equipment. While CT-scan machines are largely available in provincial and national hospital, magnetic resonance imaging (MRI) are only available in five major public hospitals, including one provincial hospital and four national hospitals. There has been some notable progress in the areas of workforce development and improved access to modern technology, such as the establishment of a nuclear medicine facility at Calmette Hospital which currently has one SPECT. This also includes plans to establish a Positron Emission Tomography (PET-CT) and cyclotron facility to further improve accessibility to cancer care. According to the Cambodia Association of Radiology, there are 250 trained radiologists (156 of them are officially graduated radiologists) and 259 professional radiation technicians in Cambodia. However, the number and capacity of specialized imaging professionals remain insufficient and concentrated in Phnom Penh. There is no hospital-wide Picture Archiving and Communication System (PACS) and images are currently stored within local workstation archiving and released to patients either by compact disc and/or printed films. Further efforts to improve radiology imaging and nuclear medicine services in Cambodia should prioritize ensuring equipment availability, developing a skilled workforce, installation of PACS at least in cancer centers and implementing comprehensive quality management system and radiation safety practices. By addressing these critical areas, Cambodia can enhance the accessibility, accuracy, and safety of radiology and nuclear medicine services, contributing to improved health care outcomes.

1.3.7 Cancer treatment

Essential cancer treatment services include radiation oncology, medical oncology and surgical oncology, and hematology & bone marrow transplantation with pediatric oncology for childhood cancer treatment.

Radiation oncology:

Radiotherapy is a key component of the curative and palliative management of cancer. Access to radiotherapy has increased significantly in the last decade but substantial investment in equipment and human resources will be required to ensure optimal access. There are only three linear accelerators operating in the whole country as of the end of 2024, one each in Calmette Hospital, Khmer-Soviet Friendship Hospital and a private clinic. These machines could treat approximately 1,000 patients a year. Luang Mè Hospital is preparing another linear accelerator for the service now. High Dose-Rate (HDR) brachytherapy and pediatric radiotherapy are only available at Calmette Hospital. The three government hospitals plan to expand their facilities so that each of them has two linear accelerators and one HDR brachytherapy machine to ensure sustainable operation and reduce waiting time. However, further improvement is needed. In addition to equipment, there is a need for improving health workforce for radiotherapy. The University of Health Sciences (UHS)’s plan to expand its current Associate Degree in

Radiation Technology to include training specific to radiation therapy should be encouraged and supported. The current general postgraduate medical training in oncology should also be advanced for the graduates to undertake international fellowships in radiation oncology, until the UHS can offer full radiation oncology training. Only bachelor degree of physics exists in the country. There is no training for medical physics, so the graduates of bachelor of physics or related fields are usually sent abroad for medical physics training.

Medical oncology:

In Cambodia, medical oncology services are primarily provided at three public hospitals, Khmer-Soviet Friendship Hospital, Calmette Hospital, and Luang Mè Hospital. However, intensive systemic therapy for hematology malignancies and bone marrow transplants do not exist in the country yet. Calmette Hospital is in the process of developing the first bone marrow transplant unit as part of the cancer care. The training system is well implemented with a good curriculum under the auspices of UHS and follow up fellowship program at designated university hospital in France. However, the overall capacity for diagnosis and treatment remains limited, with the cancer services concentrated in Phnom Penh. There is a need to develop satellite outpatient cancer units in other cities to cover needs and decentralize medical oncology and hematology services. Access to licensed medication meeting the WHO essential medical list is required, and frequent medication shortages force patients to seek alternative sources in private pharmacies, often resulting in catastrophic expenditures and treatment abandonment. There is a need to establish oncology pharmacy in hospitals to improve the quality of chemotherapy preparation and administration. The current landscape underscores the need to improve capacity and access to cancer care, introduce national treatment guidelines, and enhance support services for patients and their families.

Surgical oncology:

Surgery is a fundamental modality for curative and palliative treatment of most cancers in countries across all income settings. Coverage of cancer surgical services in Cambodia seems reasonable for most common cancers (i.e., liver cancer, breast cancer, colorectal cancer). Surgeries are most often performed by general surgeons, who have over the years gained experience in cancer surgeries. The advantage of this approach is that patients may get cancer surgery closer to their place of residence e.g., a coverage referral hospitals. However, this approach does not follow the essential principles and practice of cancer surgery, which is a specialized, multidisciplinary and high-level care provided by formally trained surgeons. With increasing efforts to improve screening and early diagnosis, there will be a larger number of early-stage cancers, and further increase in treatment capacity is necessary. Under the national cervical cancer screening program, improving the treatment of precancerous lesions with thermal ablation or loop electrosurgical excision procedure (LEEP) is a priority. According to the DPM, this treatment service is made available at all public referral hospitals in Cambodia. While larger hospitals have the necessary infrastructure to perform cancer surgery, quality of care requires improvement. There is no formal quality management and quality audit system for surgical cancer services in any of the centers. Multidisciplinary discussions are taking place; however, they are not formalized and are generally done by surgeons on a case-to-case basis.

Pediatric oncology:

Pediatric cancer services are available in the cities of Phnom Penh and Siem Reap, mainly provided through Kantha Bopha Hospital, Calmette Hospital, National Pediatric Hospital, Angkor Hospital for Children and Japan Heart Children's Medical Center. There is important engagement of the private/non-profit sector where additional resources are allocated. Each

center could not provide comprehensive services for childhood cancer diagnosis and treatment. Radiation therapy is available only at Calmette hospital. There is no Bone Marrow Transplantation unit in the whole country but expected to be operational at Calmette Hospital in 2026. Currently, there are well-trained pediatric oncologists, pediatric surgeons, and radiologists, referring patients among existing network of hospitals as needed, and working together through common multidisciplinary tumor boards. Anyways, there is no formal referral pathways available and referral agreement is mostly focus on fee coverage and done through Memorable of Understanding. International collaboration is essential for childhood cancer field development through technical assistance, leadership, twining program etc. However, pediatric oncology faces significant challenges, with survival rates considerably lower than high-income countries, and available evidence suggests an urgent need for improvement. Cambodia should further prioritize childhood cancer and related investments, focusing on comprehensive childhood cancer care, including early diagnosis, treatment, palliative care, and survivorship. Developing an appropriate training program for pediatric nurses and other related specialties is required. Further activities should include patient-parent education, psychosocial and nutritional support to meet the holistic needs of affected children. Social support programs, like the one in Angkor Hospital for Children, can serve as effective models to provide comprehensive care.

1.3.8 Palliative care

Enhancing the palliative care system and accompanying the palliative perspectives from the time of cancer diagnosis is crucial for providing appropriate cancer management, especially for those who are diagnosed late, including childhood cancer. Although the current palliative care situation has been improved, the accessibility of services is still limited. There is high demand for home-based palliative care due to cultural context and preferences. Current legal framework and reluctance of prescribing health workers constrain the accessibility of oral morphine, essential for home-based palliative care. For example, due to concerns of legal consequences in case of opioid mismanagement, physicians avoid prescribing adequate dosage of morphine to manage chronic pain in home settings.

Although palliative care is not integrated into primary health care, the development of national standard operating procedures (SOPs) that support palliative care from PHC is in the process through the initiatives of the government and non-governmental organizations. The draft SOPs indicate that primary level palliative care support will be integrated in health center services with possibility to prescribe the medicine list level 2 analgesics, whereas level 3 analgesics are reserved for hospital-based care. In addition to this effort, establishing an organization or national committee for palliative care will facilitate palliative care education, improve the quality of current practice, and develop related legislation and policy. Palliative care is most effectively provided from a multidisciplinary perspective. Therefore, in addition to specialized professionals, workforce training for social workers, psychologists, and nutritionists should be considered in further planning process.

1.3.9 SWOT Analysis

STRENGTHS
- Reasonably well-established PHC infrastructure and facilities to support cancer control. - Cancer is a highly prioritized NCD with strong commitment to NCD and cancer control as part of UHC - Available NCD governance structure, policies and plans that include cancer - Cancer prevention and screening (cervical cancer) are being scaled up as part of NCD control efforts - Specialized cancer diagnosis, treatment and care are made available in some national hospitals - Increasing government budget is allocated for NCDs, including cancer
WEAKNESSES
- Lack of cancer specific policy and governance structure, including an NCCP and an NPCC - Availability & scope of cancer diagnosis, treatment and care remains limited, mainly in Phnom Penh with lack of comprehensive quality monitoring and improvement - Unstructured referral mechanism and relatively poor connection between screening and treatment services - Large OOP hampers access to cancer services and put those obtaining the services at financial risk - Inadequate health workforce for delivery of cancer specialized services - Limitation in cancer surveillance and research - Funding for cancer remains inadequate - Lack of integrated health service (prevention and treatment services including health education of risk factors) - Lack of community engagement in cancer prevention and early detection
OPPORTUNITIES
- NCDs including cancer are increasingly prioritized to ensure achievement of UHC - Reasonably good country economic recovery and stability - Cambodia UHC roadmap calls for more investment in NCDs including cancer to achieve UHC in Cambodia - Increasing coverage of social health protection - New funding initiatives for NCD and cancer control - New evidence on cost effective interventions - New technology that can be leveraged for remote consultations, data management and awareness campaigns. - Decentralization and deconcentration with improved leadership and accountability of

sub-national level in health
- International collaboration opportunities for cancer through Global Initiative on Childhood Cancer, Global Breast Cancer Initiative, Cervical Cancer Elimination Initiative, Global Initiative for Cancer Registry Development, and IAEA Initiative Rays of Hope

THREATS

- Global economic pressure and uncertainty
- Declining trend of external funding for health with sustainable transitions from external to domestic funding
- Increasing urbanization, adopting unhealthy lifestyles, and demographic transition

1.4 Rationale of a National Cancer Control Plan in Cambodia

It is globally recognized that investing in cancer control not only improves health and saves lives, but also brings substantial social and economic return. A cancer investment case indicates that a scale up to 90% coverage of the essential package of cancer services by 2030 would cost US$140 billion. This would save 7.3 million lives and gain USD 325 billion in direct productivity and an additional USD 990 billion by averting preventable cancer mortality. This suggests that each USD invested in cancer control would bring a full social return based on both direct productivity and societal gains of USD 9.5 [35].

The first national policy on cancer control in Cambodia, National Cancer Prevention and Control Program, was developed in 1999 [36]. Under this program, some activities were carried out but on a small scale due to lack of resources. Since 2013, health policy surrounding cancer control has been included in the National Strategic Plan for the Prevention and Control of Non-communicable Diseases 2013-2020 and subsequently in 2022-2030 [29] and steady progress has been made as described in the Section 1.3. Cervical cancer has a particular focus in the Ministry of Health with clear advances under the National Action Plan for Cervical Cancer Prevention and Control 2019-2023 [34]. More recently, a special working group for cancer registries was created to initiate the development of a population-based cancer registration system in Cambodia. Resources are increasingly allocated to enhance the quality of NCD services at all health care levels and develop a robust referral system. Comprehensive cancer services are provided only at Khmer-Soviet Friendship Hospital and Calmette Hospital, while pediatric oncology services are available at Kantha Bopha Hospital, Calmette Hospital, the National Pediatric Hospital, Angkor Hospital for Children and Japan Heart Children's Medical Center. Currently, the human workforce serving in oncology units needs improvement to enhance their capabilities.

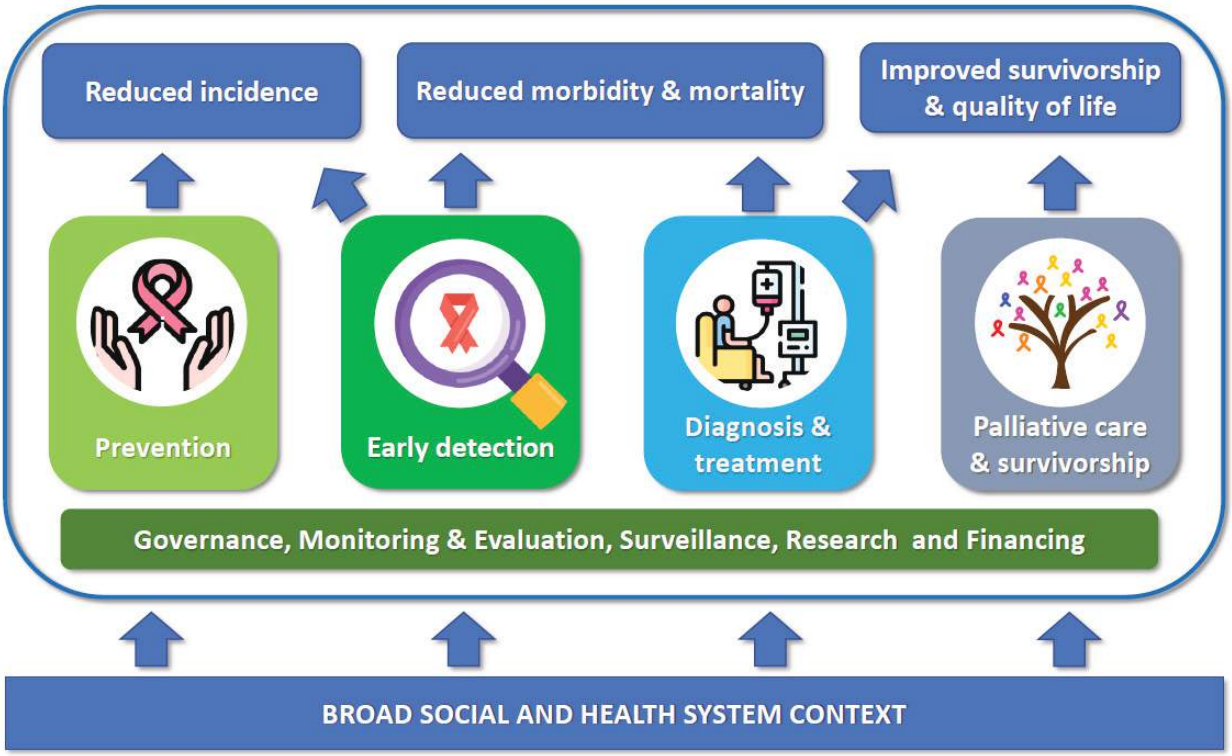
Nevertheless, given the high and ever-growing burden of cancer and cancer risk factors, the National Cancer Control Plan (NCCP) is necessary for consolidating the existing efforts and ensuring a comprehensive and coordinated approach to cancer control in Cambodia, thereby contributing to achieving universal health coverage targets as set in the roadmap recently launched by **Samdech Moha Borvor Thipadei HUN Manet**, the Prime Minister of the Kingdom of Cambodia [37].

2 Strategic framework of the National Cancer Control Plan in Cambodia

Strategic framework of the National Cancer Control Plan (NCCP) in Cambodia is summarized in Figure 1. Inspired by the vision, a goal is set to reduce the incidence of preventable cancers, morbidity and mortality of cancer, and to improve survivorship and quality of life of cancer patients and their family. To reach the goal, we propose six strategic objectives along the cancer control continuum, including prevention, early detection, diagnosis and treatment, and palliative care and survivorship based on internationally available evidence and evidence generated in the country. For each objective, we identify key strategies and strategic actions to reach the objective under the broad social and health system context in Cambodia.

Since common cancers in Cambodia are preventable, primary prevention is the most cost-effective public health strategy in NCD control and reducing cancer incidence [3]. Early detection including screening not only contributes to the reduction of cancer incidence but also morbidity and mortality due to cancers. Timely and accurate diagnosis and quality treatment will help reduce the cancer morbidity and mortality, especially premature mortality, and consequently contributes to improving survivorship and quality of life. Palliative care is crucial for improving survivorship and quality of life of patients and their family.

Figure 1: Strategic framework for cancer control in Cambodia



2.1 Vision

Cambodia will become a country with low cancer burden and high survival rates with good quality of life for cancer patients and their families.

2.2 Mission statement

To implement a comprehensive, coordinated and realistic strategic cancer control framework that leads to the reduction of incidence of preventable cancers, morbidity and premature mortality, and enhance survivorship with good quality of life for cancer patients and their families.

2.3 Guiding principles

- Quality and safety: Prioritize the quality and safety of cancer care, and ensuring that patients receive high-quality, evidence-based care that minimizes harm and maximizes benefits;
- Person-centred care approach: Emphasize the importance of treating individuals with cancer as a whole person with continuity and holistic (physical, emotional, social and spiritual) care, continuity, with shared decision making;
- Evidence-based practice: Prioritize decision-making based on scientifically valid evidence, including the selection of interventions, and adapt to emerging best practices in cancer control to optimize outcomes;
- Equity: Ensure that cancer prevention, diagnosis, treatment, and palliative care are accessible to all population groups, regardless of socio-economic status, ethnicity, age, or geographic location;
- Inclusivity: Embrace diversity and ensure that the voices of marginalized and vulnerable populations are included in the planning and implementation of cancer control initiatives; and
- Sustainability: Prioritize long-term viability by choosing interventions that are tailored to the context of Cambodia and ensure that cancer control efforts are integrated into and supported by national health strategies and policies.

2.4 Goal

To reduce the incidence of preventable cancers, and premature mortality from cancer and increase survival rates and quality of life for people living with cancer and their family in Cambodia.

2.5 Strategic objectives, strategies and strategic actions

2.5.1 Strategic objective 1: Improve primary prevention of cancers through interventions to reduce exposure to modifiable cancer risk factors and address key social and environmental determinants

2.5.1.1 Strategy 1.1: Reduce the current prevalence of tobacco use among the population aged 18-69 years at least 30% by 2030, as part of the NCD prevention and control efforts.

Strategic actions

- Enforce the Law on Tobacco Control, including the sub-decree on banning tobacco advertisement and sub-decree on measures for banning of smoking or blowing of tobacco products at work and public places;
- Advocate for increasing tobacco excise taxes;
- Provide tobacco cessation counseling integrated into NCD services at health centers and referral hospitals;
- Enlarge pictorial health warning and implement standard packaging of cigarette pack;
- Raise awareness of and educate the population about the impact of tobacco on health, economy and environment by including key messages, information, education and communication materials on reduction of tobacco use in all NCD and cancer awareness and behavior change campaigns and education in schools, workplaces and the community.

2.5.1.2 Strategy 1.2: Reduce harmful use of alcohol at least 20% by 2030 as part of the NCD prevention and control efforts.

Strategic actions

- Finalize, adopt and enforce the Law on Alcohol Control and associated sub-decrees on measures and conditions for banning or restrictions of alcohol advertisement, and sales;
- Advocate for increasing excise taxes on alcoholic beverages;
- Raise awareness of and educate the population about the impact of alcohol on health, economy and environment by including key messages, information, education and communication materials on reduction of alcohol use in all NCD and cancer awareness and behavior change campaigns and education in schools, workplaces and the community;
- Promote counseling on harmful use of alcohol at primary health care facilities.

2.5.1.3 Strategy 1.3: Reduce the prevalence of insufficient physical activity, unhealthy diets, overweight and obesity as part of the NCD prevention and control efforts.

Strategic actions

- Develop and enforce policies and legislation to control advertisement and marketing of unhealthy foods and drink;

- Integrate education and awareness raising interventions to promote healthy diets (less carbohydrate, salt and oil with more fruits and vegetables), and physical activity and mitigate overweight and obesity into health care facilities, schools, and cancer control activities at all levels, and in the community;
- Promote establishment of wellness programs in workplaces and the community;
- Advocate for increasing taxes on sugar-sweetened beverages (SSB) to reduce sugar consumption.

2.5.1.4 Strategy 1.4: Reduce exposure to known infectious agents associated with cancer

Strategic actions

- Promote HPV vaccination among targeted young girls (aged 9 years old) and hepatitis B vaccination at birth, at 6, 10 and 14 weeks of age as part of the National Immunization Program efforts;
- Review and update of the National Strategic Plan for Viral Hepatitis B and C Infection Control in Cambodia 2020-2024 which includes measures to reduce the transmission, early diagnosis and effective treatment, and ensure effective implementation of the Plan as part of infectious disease management efforts;
- Promote effective implementation of the Cambodia HIV elimination strategy.

2.5.1.5 Strategy 1.5: Reduce exposure to environmental and occupational risk factors

Strategic actions

- Establish and convene a multisectoral working group including members from relevant ministries (including the Ministry of Health, Ministry of Environment and Ministry of Labor and Vocational Training) for environmental and occupational risk factors under the existing National Committee for Environment and Health;
- Conduct a baseline survey of known environmental and occupational carcinogens (asbestos, arsenic, pesticides, air pollution, nickel compounds, silica dust…);
- Develop and implement necessary policies and action plans to reduce exposure to environmental and occupational risk factors.

2.5.2 Strategic objective 2: Improve secondary prevention of cancer through screening and early detection with linkage to diagnosis and treatment services

2.5.2.1 Strategy 2.1: Increase the coverage of cervical cancer screening among women (30-49 years) to 70% by 2030.

Strategic actions:

- Review and update the current Standard Operating Procedures for Cervical Cancer Screening to adopt cost-effective and evidence-based interventions recommended by WHO, including HPV test as a cervical screening method;
- Gradually introduce HPV test as a primary screening test, exploring the possibility of self-sampling;

- Raise awareness and educate women about risk of cervical cancer and the importance of cervical cancer screening through mass medias and interpersonal communications;
- Ensure necessary staff capacity and availability of commodities for effective scaling up of cervical cancer screening services to all health centers;
- Establish referral mechanisms with clear pathway for women with positive screening test for further diagnosis and treatment at designated referral hospitals.

2.5.2.2 Strategy 2.2: Improve early detection of breast cancer among high-risk women

Strategic actions:

- Continue to strengthen clinical breast examination and train women on self-examination using cervical cancer screening and antenatal care consultation opportunities;
- Raise awareness and educate women about risk of breast cancer, the importance of early diagnosis and highly predictive breast cancer symptoms;
- Develop guidelines and SOP to promote early diagnosis of breast cancer that includes identification of (modifiable and non-modifiable) risk factors and define conditions/criteria for prescribing mammography;
- Define and integrate a list of breast cancer risk factors to be identified as part of CVD risk factor screening at health centers and referral hospitals;
- Establish referral mechanisms with clear pathway for women with high risk of breast cancer for mammography at designated national and future regional hospitals;
- Build capacity of health care workers on early warning signs and clinical presentation of breast cancer and the importance of prompt referral;
- Build staff capacity and provide equipment for mammography at designated national and future regional hospitals.

2.5.2.3 Strategy 2.3: Improve early detection of colorectal cancer among high-risk population groups

Strategic actions:

- Raise awareness and educate the population about risk of colorectal cancer, the importance of early diagnosis, and highly predictive colorectal cancer symptoms;
- Develop guidelines and SOP to promote early diagnosis of colorectal cancer that includes identification of (modifiable and non-modifiable) risk factors and define conditions/criteria for prescribing Guaiac Fecal Occult Blood Test (gFOBT) or Fecal Immunochemical Test (FIT) or colonoscopy;
- Integrate a list of colorectal cancer risk factors to be identified as part of CVD risk factor screening at health centers and referral hospitals;
- Establish referral mechanisms with clear pathway for those with high risk of colorectal cancer for colonoscopy at designated national hospitals and future regional hospitals;
- Build capacity of health care workers on early warning signs and clinical presentation of colorectal cancer and the importance of prompt referral;

- Build staff capacity and provide equipment for colonoscopy at designated national hospitals and future regional hospitals.

2.5.2.4 Strategy 2.4: Improve early diagnosis of childhood cancers

Strategic actions:

- Raise awareness and education of the population about childhood cancers and the importance of early diagnosis;
- Build capacity of health care workers on common childhood cancers, their early warning signs and clinical presentation of childhood cancers and importance of prompt referral for timely diagnosis and treatment;
- Establish referral mechanisms with clear pathway for children with high suspicion of childhood cancer for appropriate diagnosis and treatment at designated national hospitals.

2.5.2.5 Strategy 2.5: Improve early diagnosis of cancers in the elderly aged over 65 years

Strategic actions:

- Educate the population about cancers in the elderly and the importance of early diagnosis, risk factors and highly predictive symptoms;
- Build capacity of health care workers on common cancers in elderly, their early warning signs, and clinical presentation and importance of prompt referral for timely diagnosis and treatment;
- Develop a Comprehensive Geriatric Assessment tool to be applied where possible by MDTs involving geriatricians, oncologists, nurses, and social workers in cancer centers;
- Establish referral mechanisms with clear pathway for elderly with high suspicion of elderly cancer for appropriate diagnosis and treatment at designated national hospitals.

2.5.3 Strategic objective 3: Ensure sustainable and equitable access to timely and accurate cancer diagnosis services with linkage to treatment

2.5.3.1 Strategy 3.1: Strengthen cancer diagnostic imaging and nuclear medicine

Strategic actions:

- Establish and convene a national network of cancer diagnostic imaging professionals (e.g. creating a National Cancer Imaging Task Force or strengthening the existing Cambodian Association of Radiology) with clear terms of reference;
- Develop and disseminate operational standards and guidelines for cancer imaging, including childhood cancer and elderly cancer;
- Strengthen national infrastructure for radiation safety to ensure the safe use of radiation in medical facilities and protection of workers, the patients and the public;
- Optimize and expand the range and scope of medical imaging equipment, facilities and services available for cancer diagnosis in hospitals:

    - X-ray and ultrasound in all referral hospitals;
    - CT-scan in CPA3 referral hospitals;
    - MRI in designated national hospitals; and
    - Comprehensive imaging equipment and services, including Pictures Archiving and Communication System (PACS), nuclear medicine such as a Positron Emission Tomography (PET) in at least one of the future Comprehensive Cancer Centers (CCC);
- Develop telemedicine to be used for supporting services of reading and interpreting imaging results (X-ray, CT scan and MRI) by group of experts in relevant national hospitals and the CCC;
- Strengthen private sector regulation and promote public-private partnership to address gaps in cancer diagnostic imaging, including private sector investment in diagnostic equipment and compliance to national standards, guidelines, SOPs and joint-training;

2.5.3.2 Strategy 3.2: Strengthen cancer pathology diagnostic and laboratory medicine services

Strategic actions

- Create and convene a national network of cancer pathology diagnosis professionals (e.g. creating a National Cancer Pathology Diagnosis Task Force or strengthening the existing Cambodian Association of Pathology) with clear terms of reference;
- Develop and disseminate national policy and guidelines/manual for pathology diagnostic workup of priority cancers, including childhood cancer;
- Develop and disseminate national SOPs for cancer specimen handling, including correct and safe collection and transportation of solid and liquid biopsy samples to designated national and coverage referral hospitals for testing, and introduce the SOPs to relevant health care workers at referral hospitals;
- Improve laboratory information system from paper-based to electronic medical records, including access to pathology report and incorporating synoptic reporting;
- Optimize and expand the range and scope of pathology and laboratory equipment, facilities and services available for cancer diagnosis in hospitals:
    - Blood smear for cancer cell morphology in CPA3 referral hospitals;
    - Anatomical pathology Immunohistochemistry, In Situ Hybridization, Polymerase Chain Reaction and sequencing-based molecular tests) for solid and liquid biopsy samples, chemical pathology (with a defined list of essential tumor markers), and hematology, including bone marrow cytogenetic service in future CCC;
- Develop a list of essential cancer-related in vitro diagnostics to be integrated into a national list of essential in vitro diagnostics for Cambodia based on the WHO model list of essential in vitro diagnostics [38].

2.5.3.3 Strategy 3.3: Strengthen the availability and capacity of health workforce to support cancer diagnosis

Strategic actions:

- Develop and implement a comprehensive national plan for health workforce to support cancer diagnosis, including pathologists, oncologists, haemato-oncologists, radiation and medical laboratory technologists, as part of the National Health Workforce Development Plan;
- Build necessary health workforce to provide nuclear medicine services, including nuclear medicine physician, radiopharmacist, medical physicist, cyclotron operators to support the establishment and operation of PET through:
  - developing and implementing a robust training curriculum for nuclear medicine professionals in collaboration with international agencies expert in this area, including IAEA, and
  - establishing fellowship programs in partnership with international centers of excellence;
- Train surgeons and relevant staff at referral hospitals to correctly and safely collect and transfer solid and liquid biopsy samples for further testing and reading at designated hospitals;
- Train relevant health care providers at referral hospitals on recognizing common cancer signs and symptoms, and conducting clinical evaluation/assessment of patients with suspect of cancer to enhance early diagnosis;
- Develop and use an online platform (Telegram, CoolApp, app…) for e-learning and knowledge sharing around cancer diagnosis, as part of a broader platform for cancer diagnosis, treatment and care.

2.5.4 Strategic objective 4: Ensure sustainable and equitable access to timely and quality cancer treatment and care services

2.5.4.1 Strategy 4.1: Promote the current national hospitals providing specialized cancer diagnosis and treatment services to be Comprehensive Cancer Centers (CCC) to provide high standards in cancer diagnosis, treatment and care as well as cancer education and research.

Strategic actions:

- Define national standards for organizational structure, operational procedures with clear roles and responsibilities for a CCC in Cambodian context based on IAEA and WHO guidance [39];
- Conduct of a situation analysis and need assessment in infrastructure, diagnostic and treatment facilities, and health workforce to strengthen diagnosis, treatment and care, and compare with the defined standards to identify gaps;
- Develop a costed implementation plan and submitted to the Ministry of Health for review and approval;

- Create and convene a specific TWG/Task Force to guide and monitor the implementation of the plan.
- Implement the plan by building necessary infrastructure, staff capacity, and providing necessary equipment to have at least one CCC providing nationally defined standards in cancer diagnosis, treatment and care as well as cancer education and research by 2030.

2.5.4.2 Strategy 4.2: Strengthen cancer treatment services

Strategic actions:

- Create and convene a national network of oncology professionals (e.g. a National Oncology Task Force) with clear terms of reference;
- Develop and disseminate comprehensive and evidence-based National Guidelines/Protocols for Treatment of Common Cancers, including radiotherapy, medical, hematological, surgical, and pediatric oncology, incorporating and aligning with those written in the newly developed Clinical Practice Guidelines;
- Extend the current National Essential Medicines List to include essential medicines and consumables for cancer care and treatment, based on the WHO recommended Essential Medicines List for Cancer to be included in the updated National Essential Medicines List;
- Ensure the procurement and supplies of essential medicines and consumables for cancer treatment, as part of the national procurement and supply system;
- Optimize and expand the range and scope of facilities and services available for cancer treatment in designated hospitals:
    - Treatment of cervical pre-cancerous lesions through thermal ablation and other surgical methods as recommended by the updated SOPs at all CPA2 & CPA3 referral hospitals;
    - Surgical oncology treatment for suspected malignant tumors according to the updated national guidelines/protocols by trained surgeons at designated national and coverage referral hospitals;
    - Medical oncology treatment (including systemic therapy and bone marrow transplantation), pediatric oncology and radiotherapy and other cancer specialized treatment services at designated national hospitals, including the future CCC;
- Enforce multidisciplinary team (MDT) approach to cancer treatment in all cancer centers, especially in CCC to ensure service quality;
- Establish referral mechanisms with clear pathway to ensure timely referrals of suspected/confirmed cancer cases from subnational health care facilities to designated national hospitals and cancer centers for treatment and care, leveraging the existing provincial-national hospitals twin initiative; and mechanisms for diverting referrals and transfer of care between cancer centers to minimize waiting times for radiotherapy and to ensure appropriate use of services not generally available.

2.5.4.3 Strategy 4.3: Strengthen palliative, rehabilitative, and survivorship services

Strategic actions:

- Create and convene a national network of palliative care professionals (e.g. creating a National Palliative Care Task Force or strengthening the existing Working Group for Palliative Care) with clear terms of reference;
- Develop and disseminate National Palliative Care Guidelines & SOPs, incorporating and aligning with those written in the newly developed Clinical Practice Guidelines;
- Develop and disseminate National Guidelines for rehabilitation of children and adolescents with cancer;
- Ensure consistent availability of essential opioids, including morphine, for pain management and develop appropriate guidelines & SOPs to guide their appropriate use;
- Optimize and expand the range and scope of facilities and services available for palliative care through staff training and supplies of necessary medicines according to the Guidelines and SOPs:
  - at all referral hospitals, for both outpatients and inpatients with possibility to prescribe the medicine list level 3 analgesics and
  - at all health centers for outpatients with possibility to prescribe the medicine list level 2 analgesics; and
  - home-based care as part of a broader palliative care for NCDs;
- Expand physiotherapy and other rehabilitative services at all CPA3 referral hospitals in collaboration with mental and physical rehabilitation centers;
- Develop psycho-social and counseling services for cancer patients and families in cancer centers and CCC;
- Create a survivorship program that facilitates reintegration of cancer survivors into society, school, and the workplace.

2.5.4.4 Strategy 4.4: Strengthen childhood treatment, palliative care, rehabilitative, and survivorship services

Strategic actions:

- Create and convene a national network of childhood cancer professionals (e.g. a National Childhood Cancer Task Force) with clear terms of reference;
- Conduct a situation analysis and need assessment to establish pediatric oncology centers and their network to provide comprehensive pediatric oncology services;
- Define a specific package of care for pediatric cancer case management at the designated pediatric oncology centers;
- Develop National Guideline and institutional protocol for childhood cancer treatment;
- Establish referral mechanisms with clear pathways to ensure timely referrals of suspected cases of childhood cancer from subnational health care facilities to the designated pediatric oncology centers for diagnosis, treatment and care, leveraging the existing provincial-national hospitals twin initiative; and mechanisms for diverting referrals and transfer of care between cancer centers to minimize waiting times for

radiotherapy and to ensure appropriate use of services not generally available, such as pediatric radiotherapy and brachytherapy;

- Establish a dedicated radiation oncology center for pediatric radiotherapy;

2.5.4.5 Strategy 4.5: Strengthen the availability and capacity of health workforce to support cancer treatment and care

Strategic actions:

- Develop and implement a comprehensive national plan for health workforce to support cancer treatment, including medical, surgical, pediatric, radiation, haemato-oncologists, and palliative care specialists as well as oncology nurses and physiotherapists, radiation technologists, medical physicists, psychologists, as part of the National Health Workforce Development Plan;
- Promote appropriate recruitment of personnel at cancer treatment and care facilities to bridge the identified gaps;
- Collaborate the University of Health Sciences and relevant institutions to review and update doctor specialist training curriculum and advance it to be curriculums for oncologists with specific specialties on medical, surgical, pediatric and radiation/haemato-oncologists;
- Collaborate with the University of Health Sciences to upgrade the existing Associate Degree in Radiation Technology to be a Bachelor Degree in Radiation Technology that includes training in radiation therapy;
- Train relevant health care providers at referral hospitals to support cancer treatment, including gynecologists/surgeons on treatment of cervical precancerous lesions, and oncology nurses;
- Strengthen the existing program to train medical physicists to become clinically qualified;
- Develop a national palliative care curriculum and use it for training of relevant health care workers, village health support groups and other key resource persons to provide palliative care;
- Develop and use an online platform (Telegram, CoolApp, app…) for e-learning and knowledge sharing around treatment and palliative care, as part of a broader platform for cancer diagnosis, treatment and care;

2.5.5 Strategic objective 5: Strengthen cancer information systems, surveillance and research to improve the effectiveness and efficiency of cancer control

2.5.5.1 Strategy 5.1: Strengthen cancer registration

Strategic actions:

- Develop a five-year costed national strategic plan for development of a hospital-based cancer registration (HBCR) and population-based cancer registration (PBCR) system in Cambodia;

- Develop tailor-made Standard Operating Procedures (SOPs) for PBCR and HBCR that are aligned with international standards and incorporate childhood cancer registry that allows collecting necessary data for estimating childhood cancer burden and management;
- Establish data standards, including standardized definitions, coding systems that integrates oncology-specific coding with ICD-O-3 [7] (which allows conversion to childhood cancer coding with ICCC and AJCC for staging), and data quality and consistency;
- Design the Data Collection System, including identification of data sources/collection points (hospitals, clinics, pathology labs, outpatient centers), data collection forms and electronic health records, whether a standalone system for cancer or integrated in the NCD electronic record system or a broader national EMR or a standalone system to ensure comprehensive coverage of cancer cases.
- Improve infrastructure, facilities and human capacity, according to the plan to gradually develop a Cambodia PBCR, starting with Phnom Penh;
- Strengthen the existing hospital-based cancer registries in national hospitals providing cancer care, and gradually expand it to other national hospitals and cancer diagnosis and treatment sites in Phnom Penh and provinces;
- Strengthen the current Working Group for Cancer Registration to oversee and monitor the cancer registration strengthening.

2.5.5.2 Strategy 5.2: Strengthen cancer data availability, quality and use

Strategic actions:

- Strengthen routine health data collection at heath facilities, and cancer surveillance sites to ensure the availability of cancer data, especially data on risk factor assessment, screening and referrals of suspected cases for further investigation, diagnosis and treatment at higher levels, and subpopulations at risk of inequitable access to cancer care and outcomes, such as the vulnerable, rural populations, women, and ethnic minorities;
- Define and advocate for inclusion of necessary key cancer indicators in routine data collection at health facilities (HC1 & HO2), and in national and subnational surveys;
- Promote and provide necessary capacity building (through short courses, specific face-to-face and online training and coaching) for cancer data analysis at national and subnational levels, including writing and disseminating national cancer surveillance reports;
- Create and implement a mechanism for cancer data quality improvement, including data quality audit, as part of the broader health data quality improvement;
- Conduct baseline (2025), mid-term (2027) and final (2030) evaluations of the NCCP and disseminate the findings to all stakeholders.

[7] International Classification of Diseases for Oncology, 3rd Edition (ICD-O-3)

2.5.5.3 Strategy 5.3: Strengthen cancer research, innovation and technology

Strategic actions:

- Create and convene a national network of cancer researchers (e.g. creating a National Cancer Research Task Force or strengthening the existing network, if any) with clear terms of reference;
- Develop and update a cancer research agenda that highlights priority areas/questions for cancer research;
- Establish a research team in all national and provincial hospitals, and provide them necessary capacity building to conduct clinical and epidemiological studies, including cancer research;
- Conduct cancer research, including clinical, operational, population-based research, health systems and policy research, impact evaluation and economic investment cases, according to the identified priority areas;
- Set up mechanisms to promote the utilization of cancer research findings to guide policy development, public health actions and clinical practices by active dissemination of cancer research findings through regular meetings of National Cancer Research Task Force, periodic scientific workshops/conferences on cancer, policy briefs and journal articles, and implementation of an online platform for cancer research data and knowledge sharing;
- Leverage digital health and technology to improve the efficiency of cancer control continuum, including:
    - mobile technology and social medias for public awareness raising and education;
    - Telegram, CoolApp and other online platforms for knowledge sharing and staff capacity;
    - telemedicine for staff capacity building and distance service provision, e.g. imaging diagnosis services; and
    - electronic records for cancer information and registration.

2.5.6 Strategic objective 6: Strengthen governance, coordination, financing and emergency preparedness of cancer control

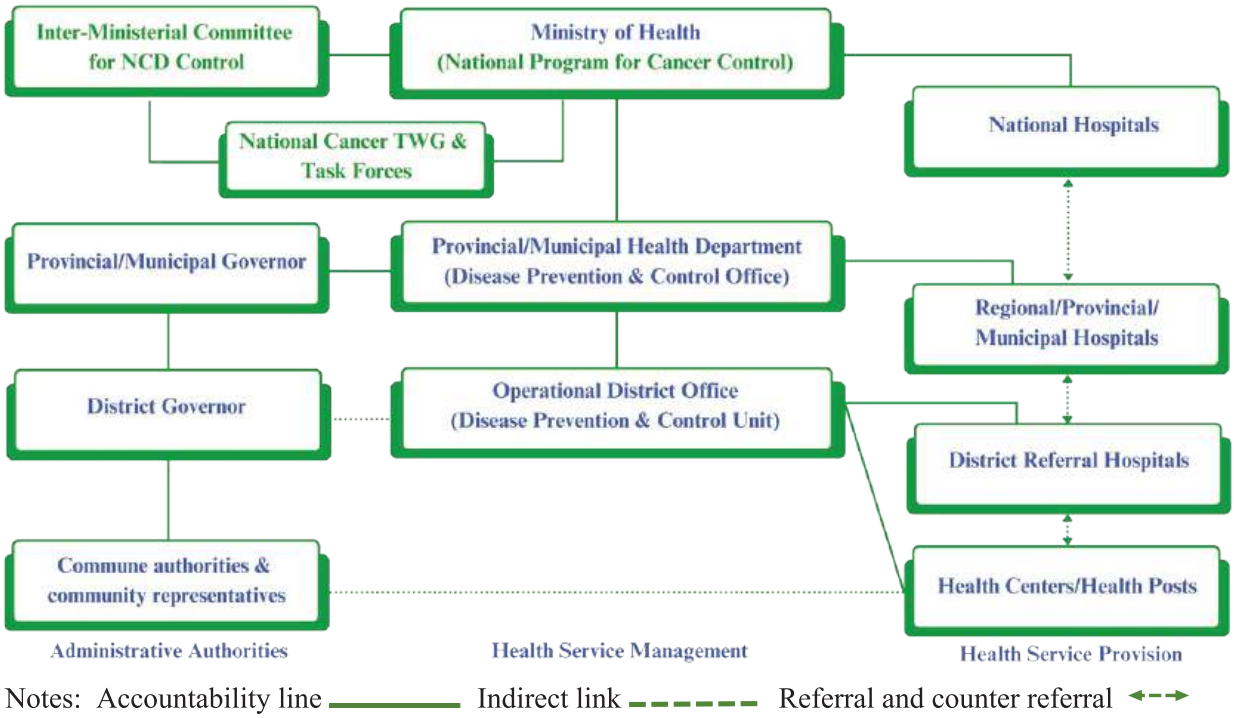
2.5.6.1 Strategy 6.1: Establish a coordination and governance structure for cancer control within the existing health system and NCD control governance structure in Cambodia

To ensure the quality of governance need new cancer specific coordination and governance structures to control cancer in Cambodia in addition to the existing health system and NCD coordination and governance structures in the country for cancer control in Cambodia. Figure 2 below summarizes the cancer control coordination and governance structure integrated in a broader health system and NCD control governance structure.

Strategic actions:

- Establish an Inter-Ministerial Committee for NCD Control (IMC-NCD) chaired by the Minister of Health clear terms of reference
- Establish an office for a National Program for Cancer Control (NPCC) within the Ministry of Health with clear terms of reference to lead the implementation, monitoring and evaluation of the National Cancer Control Plan (NCCP) under the guidance and oversight of the IMC-NCD;
- Establish a National Cancer Technical Working Group (NC-TWG) with clear terms of reference and necessary cancer professional networks (Task Forces) to provide necessary technical guidance and support for national cancer control;
- Streamline the role of Disease Prevention and Control Offices of Municipal and Provincial Health Departments as a subnational supporting structure of the NPCC;
- Monitor and evaluate the project implementation, progress and challenges, including inputs and activities as presented in Annex 1 and outputs and outcomes as shown in Annex 2.

Figure 2 : Cancer control coordination and governance structure integrated in a broader health system and NCD control governance structure



2.5.6.2 Strategy 6.2: Strengthen stakeholder engagement and partnerships for cancer control

Strategic actions:

- Organize a launching event to present the NCCP to all key stakeholders and mobilize their support for the NCCP implementation;
- Conduct a stakeholder mapping;
- Strengthen participation of key stakeholders in the established coordination and governance structure as presented in Strategy 6.1 and through public, private and people partnership, including civil societies and cancer patients;
- Develop and implement effective communication and consultation mechanisms to gather inputs, and mobilize resources for cancer control via the above coordination and governance structure for cancer control and Technical Working Group for Health.

2.5.6.3 Strategy 6.3: Ensure adequate and sustainable financing to support the NCCP implementation

Strategic actions:

- Mobilize financial resources and secure budget for the kick-off activities in 2025, in particular budget for operation cost of the newly created NPCC and the baseline study, including a costing study;
- Conduct a costing study in 2025 to estimate the budget needed for the implementation of the NCCP with a table that includes estimated cost and potential sources of funding by strategy and strategic actions to be an integral component of the NCCP;
- Advocate for increased government funding for cancer care with a possible ear-marked budget from increased excise taxes of tobacco and alcohol for cancer care, especially for cancer prevention, as part of a broader NCD financing;
- Mobilize additional fund for cancer financing from various key stakeholders, including development partners, international organizations and foundations;
- Assess the possibility to create a Cambodia Cancer Foundation, chaired by a high-level political leader, similar to Cambodia Kantha Bopha Foundation;
- Increase social health protection coverage for cancer care to remove financial barrier and ensure equitable access by
    - developing a list of essential cancer medicines, commodities and services (including screening, diagnosis and treatment, rehabilitative and palliative care) and
    - advocating for the gradual inclusion of such services in the benefit package to be reimbursed by Health Equity Fund (HEF) and National Social Security Fund (NSSF) Health Care schemes;

2.5.6.4 Strategy 6.4: Develop emergency preparedness for cancer patients and cancer control

Strategic actions:

- Establish emergency plans and procedures for cancer care facilities, hospitals, and clinics to ensure continuity of care, especially for essential cancer care services, such as chemotherapy, radiotherapy and surgery, and integrate them into broader country emergency plans;
- Develop strategies to maintain access to essential cancer medications during emergency situations;
- Leverage the use of digital technologies to enhance communications, ensure ongoing specialist consultations through telehealth and monitoring of patients in the context of constrained physical access;
- Educate patients, families and caregivers about emergency preparedness specific to cancer, including creating personal emergency plans and understand local resources.

3 Implementation framework of the National Cancer Control Plan

3.1 Implementation arrangements

Under the leadership of the Ministry of Health and oversight by the Inter-Ministerial Committee for NCD Control (IMC-NCD), the National Program for Cancer Control (NPCC) will lead the implementation arrangements and mobilize participation and support from all relevant ministries-institutions and health partners to effectively implement the National Cancer Control Plan (NCCP). Annex 1: Implementation matrix provides detailed strategic actions for each proposed strategy with a clear timeframe. Each year, the NPCC will have to translate the strategic actions into detailed activities and estimate the needed budget through operational planning and budgeting.

3.2 Resources

Ensure adequate and sustainable financing to support the NCCP implementation is crucial for the success of cancer control in Cambodia. The major sources of financing this NCCP include budget of the Royal Government of Cambodia, national and international partners, and private donations. A number of strategic actions are proposed to ensure adequate and sustainable financing of the NCCP implementation as indicated in the Strategy 6.3 above. In addition to these strategic actions, good annual budget plans with a three-year rolling plan led by the NPCC as part of the overall MoH's budget plans will ensure access to the government budget.

Because of lack of baseline data, uncertainty in defining detailed activities and time constraint, the total budget needed for the whole six years of NCCP implementation is not yet made available. However, a costing study to estimate the needed budget along with a study to collect the missing baseline data will be conducte d as soon as possible in 2025. Moreover, many of the proposed strategic actions, especially those in the strategic objective 1 – cancer prevention – have been carried out as part of NCD prevention and control efforts with needed budget already estimated. For example, the needed budget for activities related to cancer prevention was estimated to be approximately USD 7,764,346. Nevertheless, we need to mobilize and secure budget for the kick-off new core activities in 2025, in particular budget for operation cost of the NPCC and the baseline study, including a costing study as soon as possible. Excluding the ongoing activities of cancer prevention, the minimum amount of budget needed for new core activities in 2025 is estimated to be approximately USD 500,000. While the potential funding source is from the Royal Government of Cambodia, the government budget plan for 2025 is already decided. Therefore, the budget needed for the first-year new core activities should be mobilized from national and international health partners.

4 Monitoring and evaluation framework of the National Cancer Control Plan

The NPCC will also lead the monitoring and evaluation of the NCCP implementation. The routine monitoring of NCCP implementation process will focus on whether the strategic actions are carried out as indicated in Annex 1. In addition, routine monitoring and annual review of the progress will be based on the monitoring and evaluation indicator framework in Annex 2.

Data for computing the indicators will be collected on a routine basis by relevant health facilities and institutions, including Health Management Information System and cancer registries. In addition to the routine data, the framework of monitoring and evaluation will have a plan of baseline study in 2025, a mid-term review in 2027, and a final evaluation in 2030. The results from the baseline study will allow updating the baseline data and adjusting the proposed targets for 2030.

Annexes

Annex 1: Implementation matrix

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
1.1	***Reduce the current prevalence of tobacco use among the population aged 18-69 years at least 30% by 2030 as part of the NCD prevention and control efforts***							
1.1.1	Enforcement of Law on Tobacco Control, including enforcement of sub-decree on banning tobacco advertisement, and sub-decree on measures for banning of smoking or blowing of tobacco products at work and public places	√	√	√	√	√	√	NCHP, NC-TC, CPC-NCD, MoH IMC-NCD Municipalities, Cities/Provincial Hall
1.1.2	Advocate for increasing tobacco excise taxes	√	√					NCHP, NC-TC, CPC-NCD, MoH GDT, MEF
1.1.3	Provide tobacco cessation and counseling integrated into NCD services at health centers and referral hospitals	√	√	√	√	√	√	NCHP, NC-TC, HCs, RHs CPC-NCD
1.1.4	Enlarge Pictorial Health Warning and implement standard packaging of cigarette pack	√	√	√	√	√	√	NCHP, NC-TC, NPC-NCD, MoH IMC-NCD
1.1.5	Raise awareness of and educate the population about the impact of tobacco, electronic cigarettes, HTPs on health, economy and environment by including key messages, information, education and communication materials on reduction of tobacco use in all NCD and cancer awareness and behavior change campaigns and education in schools, workplaces and the community	√	√	√	√	√	√	NCHP, NC-TC, CPC-NCD, MoH MoEYS MoI Relevant partners
1.2	***Reduce harmful use of alcohol at least 20% by 2030 as part of the NCD prevention and control efforts***							
1.2.1	Finalize, adopt and enforce the Law on Alcohol Control and associated sub-decrees on measures and conditions for banning or restrictions of alcohol advertisement, and sales	√	√					NCHP, CPC-NCD, MoH IMC-NCD Council of Ministers RGC

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
								National Assembly
1.2.2	Advocate for increasing excise taxes on alcoholic beverages	√	√					NCHP, NPC-NCD, MoH GDT, MEF
1.2.3	Raise awareness of and educate the population about the impact of alcohol on health, economy and environment by including key messages, information, education and communication materials on reduction of alcohol use in all NCD and cancer awareness and behavior change campaigns and education in schools, workplaces and the community	√	√	√	√	√	√	NCHP, CPC-NCD, MoH MoEYS MoI Relevant partners
1.2.4	Promote counseling on harmful use of alcohol at primary health care facilities	√	√	√	√	√	√	NCHP, CPC-NCD, MoH MoEYS MoI Relevant partners
1.3	***Reduce the prevalence of insufficient physical inactivity, unhealthy diets, overweight and obesity as part of the NCD prevention and control efforts***							
1.3.1	Develop and enforce policies and legislation to control advertisement and marketing of unhealthy foods and drink	√	√	√	√	√	√	NCHP, CPC-NCD, MoH MoI IMC-NCD
1.3.2	Integrate education and awareness raising interventions to promote healthy diets (less carbohydrate, salt and oil with more fruits and vegetables), and physical activity and mitigate overweight and obesity into health care facilities, schools, cancer control activities at all levels, and in the community	√	√	√	√	√	√	NCHP, CPC-NCD, MoH MoEYS MoI Relevant partners
1.3.3	Promote establishment of wellness programs in workplaces and the community	√	√	√	√	√	√	NCHP, CPC-NCD, MoH IMC-NCD Municipalities, Cities/Provincial Hall Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
1.3.4	Advocate for increasing taxes on sugar-sweetened beverages (SSB) to reduce sugar consumption			√	√			NCHP, NPC-NCD, MoH GDT, MEF
1.4	***Reduce exposure to known infectious agents associated with cancer***							
1.4.1	Promote HPV vaccination among targeted young girls (aged 9 years old) and hepatitis B vaccination at birth, at 6, 10 and 14 weeks of age as part of the National Immunization Program (NIP) efforts	√	√	√	√	√	√	NIP, MoH Relevant partners
1.4.2	Review and update of the National Strategic Plan for Viral Hepatitis B and C Infection Control in Cambodia 2020-2024 which includes measures to reduce the transmission, early diagnosis and effective treatment, and ensure effective implementation of the Plan as part of infectious disease management efforts	√	√					CDC, MoH Relevant partners
1.4.3	Promote effective implementation of the Cambodia HIV elimination strategy	√	√	√	√	√	√	NCHADS, MoH Relevant partners
1.5	***Reduce exposure to environmental and occupational risk factors***							
1.5.1	Establish and convene a multisectoral working group including members from relevant ministries (MOH, Ministry of Environment and Ministry of Labor and Vocational Training…) for environmental and occupational risk factors under the existing National Committee for Environment and Health (NCEH)	√	√	√	√	√	√	DPM, CPC-NCD, MoH NCEH
1.5.2	Conduct a baseline survey of known environmental and occupational carcinogens (asbestos, arsenic, pesticides, air pollution, nickel compounds, silica dust…);	√	√					DPM, CPC-NCD, MoH NCEH, MLVT
1.5.3	Develop and implement necessary policies and action plans to reduce exposure to environmental and occupational risk factors		√	√	√	√	√	DPM, CPC-NCD, MoH NCEH, MLVT
2.1	***Increase the coverage of cervical cancer screening among women (30-49 years) to 70% by 2030***							
2.1.1	Review and update the current Standard Operating Procedures for Cervical Cancer Screening to adopt cost-effective and evidence-		√					NPCC, CPC-NCD, MoH

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
	based interventions recommended by WHO, including HPV test as a cervical screening method							NC-TWG Relevant partners
2.1.2	Gradually introduce HPV test as a primary screening test, exploring the possibility of self-sampling		√	√	√	√	√	NPCC, CPC-NCD, MoH NC-TWG Relevant partners
2.1.3	Raise awareness of and educate women about risk of cervical cancer, the importance of cervical cancer screening through mass medias and interpersonal communications		√	√	√	√	√	NPCC, CPC-NCD, MoH MoEYS MoI Relevant partners
2.1.4	Ensure necessary staff capacity and availability of commodities for effective scaling up of cervical cancer screening services to all health centers	√	√	√	√	√	√	NPCC, CPC-NCD, MoH Relevant partners
2.1.5	Establish and strengthen referral mechanisms with clear pathway for women with positive screening test for further diagnosis and treatment at designated referral hospitals	√	√	√	√	√	√	NPCC, CPC-NCD, MoH Relevant partners
2.2	***Improve early detection of breast cancer among high-risk women***							
2.2.1	Continue to strengthen clinical breast examination and train women on self-examination using cervical cancer screening and antenatal care consultation opportunities	√	√	√	√	√	√	NPCC, NMCHC, CPC-NCD, MoH Relevant partners
2.2.2	Raise awareness of and educate women about risk of breast cancer, the importance of early diagnosis and highly predictive breast cancer symptoms		√	√	√	√	√	NPCC, NPC-NCD, MoH, MoWA, Relevant partners
2.2.3	Develop guidelines and SOP to promote early diagnosis of breast cancer that includes identification of (modifiable and non-modifiable) risk factors and define conditions/criteria for prescribing mammography		√					NPCC, CPC-NCD, MoH NC-TWG Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
2.2.4	Integrate a list of breast cancer risk factors to be identified as part of CVD risk factor screening at health centers and referral hospitals		√					NPCC, DPM, CPC-NCD, MoH Relevant partners
2.2.5	Establish referral mechanisms with clear pathway for women with high risk of breast cancer for mammography at designated national and regional hospitals		√	√				NPCC, CPC-NCD, MoH Relevant partners
2.2.6	Build capacity of health care workers on early warning signs and clinical presentation of breast cancer and the importance of prompt referral		√		√		√	NPCC, CPC-NCD, MoH Relevant partners
2.2.7	Build staff capacity and provide equipment for mammography at designated national and future regional hospitals			√			√	NPCC, CPC-NCD, MoH NC-TWG Relevant partners
2.3	***Improve early detection of colorectal cancer among high-risk population groups***							
2.3.1	Raise awareness of and educate the population about risk of colorectal cancer, the importance of early diagnosis, and highly predictive colorectal cancer symptoms		√	√	√	√	√	NPCC, CPC-NCD, MoH Relevant partners
2.3.2	Develop guidelines and SOP to promote early diagnosis of colorectal cancer that includes identification of (modifiable and non-modifiable) risk factors and define conditions/criteria for prescribing colonoscopy		√					NPCC, CPC-NCD, MoH NC-TWG Relevant partners
2.3.3	Integrate a list of colorectal risk factors to be identified as part of CVD risk factor screening at health centers and referral hospitals		√					NPCC, DPM, CPC-NCD, MoH Relevant partners
2.3.4	Establish referral mechanisms with clear pathway for those with high risk of colorectal cancer for colonoscopy at designated national hospitals and future regional hospitals		√	√				NPCC, CPC-NCD, MoH Relevant partners
2.3.5	Build capacity of health care workers on early warning signs and clinical presentation of colorectal cancer and the importance of prompt referral		√		√		√	NPCC, CPC-NCD, MoH Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
2.3.6	Build staff capacity and provide equipment for colonoscopy at designated national hospitals and future regional hospitals			√			√	NPCC, CPC-NCD, MoH NC-TWG Relevant partners
2.4	***Improve early diagnosis of childhood cancers***							
2.4.1	Raise awareness of and educate the population about childhood cancers and the importance of early diagnosis of childhood cancers and highly predictive symptoms		√	√	√	√	√	NPCC, CPC-NCD, MoH, Cambodian Pediatric Association Relevant partners
2.4.2	Build capacity of health care workers on common childhood cancers, their early warning signs and clinical presentation of childhood cancers and importance of prompt referral for timely diagnosis and treatment		√	√	√	√	√	NPCC, CPC-NCD, MoH, Cambodian Pediatric Association Relevant partners
2.4.3	Establish referral mechanisms with clear pathway for children with high suspicion of childhood cancer for appropriate diagnosis and treatment at designated national hospitals		√	√				NPCC, CPC-NCD, MoH, Cambodian Pediatric Association Relevant partners
2.5	***Improve early diagnosis of cancers in the elderly aged over 65 years***							
2.5.1	Educate the population about cancers in the elderly and the importance of early diagnosis, risk factors and highly predictive symptoms		√		√		√	NPCC, CPC-NCD, MoH Relevant partners
2.5.2	Build capacity on common cancers in elderly, their early warning signs, and clinical presentation and importance of prompt referral for timely diagnosis and treatment		√		√		√	NPCC, CPC-NCD, MoH Relevant partners
2.5.3	Develop a Comprehensive Geriatric Assessment tool to be applied where possible by MDTs involving geriatricians, oncologists, nurses, and social workers in center centers		√					NPCC, CPC-NCD, MoH NC-TWG Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
2.5.4	Establish referral mechanisms with clear pathway for elderly with high suspicion of elderly cancer for appropriate diagnosis and treatment at designated national hospitals		√	√				NPCC, CPC-NCD, MoH Relevant partners
3.1	***Strengthen cancer diagnostic imaging and nuclear medicine***							
3.1.1	Establish and convene a national network of cancer diagnostic imaging professionals (e.g. creating a National Cancer Imaging Task Force or strengthening the existing Cambodian Association of Radiology) with clear terms of reference	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, Cambodian Association of Radiology
3.1.2	Develop and disseminate operational standards and guidelines for cancer imaging, including childhood cancer		√					NPCC, CPC-NCD, MoH NC-TWG
3.1.3	Review and strengthen national infrastructure for radiation safety to ensure the safe use of radiation in medical facilities and protection of workers, the patients and the public			√			√	NPCC, CPC-NCD, MoH, MME NC-TWG, Relevant partners
3.1.4	Optimize and expand the range and scope of medical imaging equipment, facilities and services available for cancer diagnosis in hospitals: • X-ray and ultrasound in all referral hospitals; • CT-scan in CPA3 referral hospitals; • MRI in designated national hospitals; and • Comprehensive imaging equipment and services, including Pictures Archiving and Communication System (PACS), nuclear medicine such as a PET in at least one of the future CCC			√			√	NPCC, CPC-NCD, MoH National and referral hospitals
3.1.5	Develop telemedicine to be used for supporting services of reading and interpreting imaging results (X-ray, CT scan and MRI) by group of experts in relevant national hospitals and the comprehensive cancer centers			√				NPCC, CPC-NCD, MoH, Cambodian Association of Radiology National Cancer Imaging Professional Network

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
3.1.6	Strengthen private sector regulation and promote public-private partnership to address gaps in cancer diagnostic imaging (Private hospitals should follow national standards, guidelines, and SOP, and joint-training)			√			√	NPCC, DHS, CPC-NCD, MoH, Cambodian Association of Radiology National Cancer Imaging Professional Network
3.2	***Strengthen cancer pathology diagnostic and laboratory medicine services***							
3.2.1	Create and convene a national network of cancer pathology diagnosis professionals (e.g. creating a National Cancer Pathology Diagnosis Task Force or strengthening the existing Cambodian Association of Pathology) with clear terms of reference	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, Cambodian Association of Pathology
3.2.2	Develop and disseminate national policy and guidelines/manual for pathology diagnostic workup of priority cancers, including childhood cancers		√					NPCC, CPC-NCD, MoH, NC-TWG, Relevant partners
3.2.3	Develop and disseminate national SOPs for cancer specimen handling, including correct and safe collection and transportation of solid and liquid biopsy samples to designated national and regional hospitals for testing, and introduce the SOPs to relevant health care workers at referral hospitals		√					NPCC, CPC-NCD, MoH, NC-TWG, Relevant partners
3.2.4	Improve laboratory information system from paper-based to electronic medical records, including access to pathology report, and incorporating synoptic reporting		√		√		√	NPCC, CPC-NCD, MoH, NC-TWG, Relevant partners
3.2.5	Optimize and expand the range and scope of pathology and laboratory equipment, facilities and services available for cancer diagnosis in hospitals: • Blood smears for cancer cell morphology in CPA3 referral hospitals; • Anatomical pathology (Immunohistochemistry, In Situ Hybridization, Polymerase Chain Reaction and sequencing-based molecular tests) for solid and liquid biopsy samples, chemical pathology (with a defined list of essential tumor markers), and hematology, including bone marrow cytogenetic service future CCC			√			√	NPCC, CPC-NCD, MoH National hospitals, CPA3 referral hospitals

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
3.2.6	Develop a list of essential cancer-related in vitro diagnostics to be integrated into a national list of essential in vitro diagnostics for Cambodia based on the WHO model list of essential in vitro diagnostics			√				NPCC, CPC-NCD, MoH, NC-TWG, Relevant partners
3.3	***Strengthen the availability and capacity of health workforce to support cancer diagnosis***							
3.3.1	Develop and implement a comprehensive national plan for health workforce to support cancer diagnosis, including pathologists, oncologists, haemato-oncologists, radiation and medical laboratory technologists, as part of the National Health Workforce Development Plan	√	√	√	√	√	√	NPCC, HRD, PD, MoH, NC-TWG, Cambodian Association of Radiology, Cambodian Association of Clinical Oncology, Cambodian Association of Pathology National Cancer Imaging and Pathology Diagnosis Professional Networks, Relevant partners
3.3.2	Build necessary health workforce to provide nuclear medicine services, including nuclear medicine physician, radiopharmacist, medical physicist, cyclotron operators to support the establishment and operation of PET through: • developing and implementing a robust training curriculum for nuclear medicine professionals in collaboration with international agencies expert in this area, including IAEA, and • establishing fellowship programs in partnership with international centers of excellence	√	√	√	√	√	√	NPCC, HRD, MoH, NC-TWG, Cambodian Association of Clinical Oncology National Cancer Imaging Professional Network, Relevant partners
3.3.3	Train surgeons and relevant staff at referral hospitals to correctly and safely collect and transfer solid and liquid biopsy samples for further testing and reading at designated hospitals		√		√		√	NPCC, HRD, MoH, Cambodian Society of Surgery National Cancer Pathology Diagnosis Professional Network, Relevant partners National hospitals

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
3.3.4	Train relevant health care providers at referral hospitals on recognizing common cancer signs and symptoms, and conducting clinical evaluation/assessment of patients with suspect of cancer to enhance early diagnosis		√		√		√	NPCC, HRD, MoH, National hospitals, Relevant partners
3.3.5	Develop and use an online platform (Telegram, CoolApp, app…) for e-learning and knowledge sharing around cancer diagnosis, as part of a broader platform for cancer diagnosis, treatment and care			√				NPCC, HRD, MoH NC-TWG, National Cancer Imaging and Pathology Diagnosis Professional Networks
4.1	***Promote the current national hospitals providing specialized cancer diagnosis and treatment services to be Comprehensive Cancer Centers to provide high standards in cancer diagnosis, treatment and care as well as cancer education and research***							
4.1.1	Define national standards for organizational structure, operational procedures with clear roles and responsibilities for a CCC in Cambodian context based on IAEA and WHO guidance	√						NPCC, MoH, NC-TWG, Relevant partners
4.1.2	Conduct of a situation analysis and need assessment in infrastructure, diagnostic and treatment facilities, and health workforce to strengthen diagnosis, treatment and care, and compare with the defined standards to identify gaps	√						NPCC, MoH, NC-TWG, Relevant partners
4.1.3	Develop a costed implementation plan and submitted to the Ministry of Health for review and approval	√						NPCC, MoH, NC-TWG Relevant partners
4.1.4	Create and convene a specific TWG/Task Force under the NC-TWG to guide and monitor the implementation of the plan		√					NPCC, MoH NC-TWG, Relevant partners
4.1.5	Implement the plan by building necessary infrastructure, staff capacity, and providing necessary equipment to have at least one CCC providing nationally defined standards in cancer diagnosis, treatment and care as well as cancer education and research by 2030		√	√	√	√	√	NPCC, MoH Specific TWG/Task Force, NC-TWG, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
4.2	***Strengthen cancer treatment services***							
4.2.1	Create and convene a national network of oncology professionals (e.g. creating a National Oncology Task Force or Cambodian Association of Clinical Oncology) with clear terms of reference	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, Cambodian Association of Clinical Oncology
4.2.2	Develop and disseminate comprehensive and evidence-based National Guidelines/Protocols for Treatment of Common Cancers, including radiotherapy, medical, hematological, surgical, and pediatric oncology, incorporating and aligning with those written in the newly developed Clinical Practice Guidelines		√	√			√	NPCC, CPC-NCD, MoH, NC-TWG, Oncology and other cancer professional networks, Relevant partners
4.2.3	Extend the current National Essential Medicines List to include essential medicines and consumables for cancer care and treatment, based on the WHO recommended Essential Medicines List for Cancer to be included in the updated National Essential Medicines List		√		√		√	NPCC, DDF, CPC-NCD, MoH, NC-TWG, Oncology and other cancer professional networks, Relevant partners
4.2.4	Ensure the procurement and supplies of essential medicines and consumables for cancer treatment, as part of the national procurement and supply system		√		√		√	NPCC, DDF, CMS, CPC-NCD, MoH, National and referral hospitals
4.2.5	Optimize and expand the range and scope of facilities and services available for cancer treatment in designated hospitals: • Treatment of cervical pre-cancerous lesions through thermal ablation and other surgical methods as recommended by the updated SOPs at all CPA2 & CPA3 referral hospitals; • Surgical oncology treatment for suspected malignant tumors according to the updated national guidelines/protocols by trained surgeons at designated national and future regional hospitals; • Medical oncology treatment (including systemic therapy and bone marrow transplant), pediatric oncology and	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, National and referral hospitals, and CCC

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
	radiotherapy and other cancer specialized treatment services at designated national hospitals, including the future Comprehensive Cancer Centers							
4.2.6	Develop SOP for multidisciplinary team (MDT) and enforce MDT approach to cancer treatment in all cancer centers, especially in comprehensive cancer centers, to ensure service quality.		√	√	√	√	√	NPCC, CPC-NCD, MoH, CCC
4.2.7	Establish referral mechanisms with clear pathways to ensure timely referrals of suspected/confirmed cancer cases from subnational health care facilities to designated hospitals or cancer centers for treatment and care, leveraging the existing provincial-national hospitals twin initiative; and mechanisms for diverting referrals and transfer of care between cancer centers to minimize waiting times for radiotherapy and to ensure appropriate use of services not generally available.		√	√				NPCC, CPC-NCD, MoH, National Oncology Professional Network, Relevant partners
4.3	***Strengthen palliative, rehabilitative, and survivorship services***							
4.3.1	Create and convene a national network of palliative care professionals (e.g. creating a National Palliative Care Task Force or strengthening the existing Working Group for Palliative Care) with clear terms of reference	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, Working Group for Palliative Care
4.3.2	Develop and disseminate National Palliative Care Guidelines & SOPs, incorporating and aligning with those written in the newly developed Clinical Practice Guidelines		√					NPCC, DPM, CPC-NCD, MoH, NC-TWG, Relevant partners
4.3.3	Develop and disseminate National Guidelines for rehabilitation of children and adolescents with cancer		√					NPCC, CPC-NCD, MoH, MoSVY, NC-TWG, Childhood cancer professional network, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
4.3.4	Ensure consistent availability of essential opioids, including morphine, for pain management and develop appropriate guidelines & SOPs to guide their appropriate use		√		√		√	NPCC, DDF, CPC-NCD, MoH, NC-TWG, Palliative Care Professional Network Relevant partners
4.3.5	Optimize and expand the range and scope of facilities and services available for palliative care through staff training and supplies of necessary medicines according to the guidelines and SOPs • at all referral hospitals, for both outpatients and inpatients with possibility to prescribe the medicine list level 3 analgesics, • at all health centers for outpatients with possibility to prescribe the medicine list level 2 analgesics, and • home-based care as part of broader palliative care for NCDs	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, NC-TWG, Palliative Care Professional Network, Referral hospital and health centers Relevant partners
4.3.6	Expand physiotherapy and other rehabilitative services at all CPA 3 referral hospitals in collaboration with mental and physical rehabilitation centers		√	√	√	√	√	NPCC, CPC-NCD, MoH, NC-TWG, MoSVY, DMHSA Physiotherapy Professional Network Relevant partners
4.3.7	Develop psychological and counseling services for cancer patients and families in cancer centers and CCC	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, NC-TWG, DMHSA Palliative Care Professional Network Relevant partners
4.3.8	Create a survivorship program that facilitates reintegration of cancer survivors into society, schools and the workplace			√	√			NPCC, CPC-NCD, MoH, NC-TWG, Palliative Care Professional Network Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
4.4	***Strengthen childhood cancer treatment, palliative care, rehabilitative, and survivorship services***							
4.4.1	Create and convene a national network of childhood cancer professionals (e.g. creating a National Childhood Cancer Task Force or strengthening the existing network, if any) with clear terms of reference	√	√	√	√	√	√	NPCC, CPC-NCD, MoH, Pediatric hospitals providing childhood cancer care
4.4.2	Conduct a situation analysis and need assessment to establish pediatric oncology centers and their network to provide comprehensive pediatric oncology services	√	√					NPCC, CPC-NCD, MoH, NC-TWG, Relevant partners
4.4.3	Define a specific package of care for pediatric cancer case management at the designated pediatric oncology centers		√	√				NPCC, CPC-NCD, MoH, NC-TWG, Childhood cancer professional network, Relevant partners
4.4.4	Develop National Guideline and institutional protocol for childhood cancer treatment;		√	√				NPCC, CPC-NCD, MoH, NC-TWG, Childhood cancer professional network, Relevant partners
4.4.5	Establish referral mechanisms with clear pathways to ensure timely referrals of suspected cases of childhood cancer from subnational health care facilities to the designated pediatric oncology centers for diagnosis, treatment and care, leveraging the existing provincial-national hospitals twin initiative; and mechanisms for diverting referrals and transfer of care between cancer centers to minimize waiting times for radiotherapy and to ensure appropriate use of services not generally available, such as pediatric radiotherapy and brachytherapy		√	√				NPCC, CPC-NCD, MoH, National Cancer Professional Network, Relevant partners
4.4.6	Establish a dedicated radiation oncology center for pediatric radiotherapy		√	√				NPCC, CPC-NCD, MoH, National Cancer Professional Network, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
4.5	***Strengthen the availability and capacity of health workforce to support cancer treatment and care***							
4.5.1	Develop and implement a comprehensive national plan for health workforce to support cancer treatment, including medical, surgical, pediatric, radiation, haemato-oncologists, and palliative care specialists as well as oncology nurses and physiotherapists, radiation technologists, medical physicists, psychologists, as part of the National Health Workforce Development Plan	√	√	√	√	√	√	NPCC, HRD, DP, MoH, UHS NC-TWG, All Cancer Professional Networks, Relevant partners
4.5.2	Promote appropriate recruitment of personnel at cancer treatment and care facilities to bridge the identified gaps	√	√	√	√	√	√	NPCC, DP, MoH, NC-TWG
4.5.3	Work with the University of Health Sciences and relevant institutions to review and update doctor specialist training curriculum and advance it to be curriculums for oncologists with specific specialties on medical, surgical, pediatric, radiation and haemato-oncologists		√	√	√	√	√	NPCC, HRD, UHS, MoH, NC-TWG, All Cancer Professional Networks, Relevant partners
4.5.4	Work with the University of Health Sciences to upgrade the existing Associate Degree in Radiation Technology to be a Bachelor Degree in Radiation Technology that includes training in radiation therapy		√	√				NPCC, HRD, UHS, MoH, NC-TWG, Relevant partners
4.5.5	Train relevant health care providers at referral hospitals to support cancer treatment, including gynecologists/surgeons on treatment of cervical precancerous lesions, and oncology nurses		√		√		√	NPCC, HRD, MoH, NC-TWG, All Cancer Professional Networks, Relevant partners
4.5.6	Strengthen the existing program to train medical physicists to become clinically qualified	√	√	√	√	√	√	NPCC, HRD, UHS, MoH, NC-TWG, Relevant partners
4.5.7	Develop a national palliative care curriculum and use it for training of relevant health care workers, village health support groups and other key resource persons to provide palliative care	√	√		√			NPCC, HRD, UHS, MoH, NC-TWG, All Cancer Professional Networks, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
4.5.8	Develop and use an online platform (Telegram, CoolApp, app…) for e-learning and knowledge sharing around treatment and palliative care, as part of a broader platform for cancer diagnosis, treatment and care	√	√	√	√	√	√	NPCC, HRD, MoH NC-TWG, National Cancer Diagnosis, Treatment and Care Professional Networks
5.1	***Strengthen cancer registration***							
5.1.1	Develop a five-year costed national strategic plan for development of a hospital-based cancer registration (HBCR) and population-based cancer registration (PBCR) system in Cambodia	√	√					NPCC, MoH NC-TWG, Working Group for Cancer Registration, Relevant partners
5.1.2	Develop tailor-made Standard Operating Procedures (SOPs) for PBCR and HBCR that are aligned with international standards and incorporate childhood cancer registry that allows collecting necessary data for estimating childhood cancer burden and management	√						NPCC, MoH Working Group for Cancer Registration, Relevant partners
5.1.3	Establish data standards, including standardized definitions, coding systems that integrates oncology-specific coding with ICD-O-3 (which allows conversion to childhood cancer coding with ICCC and AJCC for staging), and data quality and consistency	√	√					NPCC, DPHI, MoH NC-TWG, Working Group for Cancer Registration, Relevant partners
5.1.4	Design the Data Collection System, including identification of data sources/collection points (hospitals, clinics, pathology labs, outpatient centers), data collection forms and electronic health records, whether a standalone system for cancer or integrated in the NCD electronic record system or a broader national EMR or a standalone system to ensure comprehensive coverage of cancer cases	√	√	√	√	√	√	NPCC, DPHI, DDH, MoH NC-TWG, Working Group for Cancer Registration, Relevant partners
5.1.5	Improve infrastructure, facilities and human capacity, according to the plan to gradually develop a Cambodia PBCR, starting with Phnom Penh	√	√	√	√	√	√	NPCC, DPHI, MoH NC-TWG, Working Group for Cancer Registration, Relevant partners
5.1.6	Strengthen the existing hospital-based cancer registries in national hospitals providing cancer care, and gradually expand it to other	√	√	√	√	√	√	NPCC, DPHI, MoH NC-TWG,

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
	national hospitals and cancer diagnosis and treatment sites in Phnom Penh and provinces							Working Group for Cancer Registration, Relevant partners
5.1.7	Strengthen the current Working Group for Cancer Registration to oversee and monitor the cancer registration strengthening	√	√	√	√	√	√	NPCC, MoH NC-TWG, Working Group for Cancer Registration, Relevant partners
5.2	***Strengthen cancer data availability, quality and use***							
5.2.1	Strengthen routine health data collection at heath facilities, and cancer surveillance sites to ensure the availability of cancer data, especially data on risk factor assessment, screening and referrals of suspected cases for further investigation, diagnosis and treatment at higher levels, and subpopulations at risk of inequitable access to cancer care and outcomes, such as the poor, rural population, women, and ethnic minorities	√	√	√	√	√	√	NPCC, DPHI, DDH, MoH, NC-TWG, Relevant partners
5.2.2	Define and advocate for inclusion of necessary key cancer indicators in routine data collection at health facilities (HC1 & HO2) and in national and subnational surveys		√	√				NPCC, DPHI, DDH, MoH, NC-TWG, National Institute of Statistics, Relevant partners
5.2.3	Promote and provide necessary capacity building (through short courses, specific face-to-face and online training and coaching) for cancer data analysis at national and subnational levels, including writing and disseminating national cancer surveillance reports		√	√	√	√	√	NPCC, DPHI, NIPH, MoH NC-TWG, Relevant partners
5.2.4	Create and implement a mechanism for cancer data quality improvement, including data quality audit, as part of the broader health data quality improvement		√	√	√	√	√	NPCC, DPHI, MoH, NC-TWG, Relevant partners
5.2.5	Conduct baseline (2025), mid-term (2027) and final (2030) evaluations of the NCCP and disseminating the findings to all stakeholders	√		√			√	NPCC, DPHI, NIPH, MoH, NC-TWG, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
5.3	***Strengthen cancer research, innovation and technology***							
5.3.1	Create and convene a national network of cancer researchers (e.g. creating a National Cancer Research Task Force or strengthening the existing network if any) with clear terms of reference	√	√	√	√	√	√	NPCC, NIPH, UHS, MoH
5.3.2	Develop and update a cancer research agenda that highlights priority areas/questions for cancer research		√		√		√	NPCC, NIPH, UHS, MoH, National Cancer Research Task Force, Relevant partners
5.3.3	Establish a research team in all national and provincial hospitals, and provide them necessary capacity building to conduct clinical and epidemiological studies, including cancer research		√	√	√	√	√	NPCC, NIPH, UHS, MoH, National Cancer Research Task Force, National and provincial hospitals, Relevant partners
5.3.4	Conduct cancer research, including clinical, operational, population-based research, health systems and policy research, and impact evaluation and economic investment cases, according to the identified priority areas	√	√	√	√	√	√	NPCC, NIPH, UHS, MoH, National Cancer Research Task Force, National and provincial hospitals, Relevant partners
5.3.5	Promote the utilization of cancer research findings to guide policy development, public health actions and clinical practices by active dissemination of cancer research findings through regular meetings of National Cancer Research Task Force, periodic scientific workshops/conferences on cancer, policy briefs and journal articles, and implementation of an online platform for cancer research data and knowledge sharing	√	√	√	√	√	√	NPCC, NIPH, UHS, NECHR, MoH, National Cancer Research Task Force, National and provincial hospitals, Relevant partners
5.3.6	Leverage digital health and technology to improve the efficiency of cancer control continuum, including: • mobile technology and social media for public awareness raising and education;	√	√	√	√	√	√	NPCC, DPHI, DDH, MoH, Ministry of Post and Tele-communications, Relevant partners

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
	• Telegram, CoolApp and other online platforms for knowledge sharing and staff capacity; • telemedicine for staff capacity building and distance service provision, e.g. imaging diagnosis services; and • electronic records for cancer information and registration							
6.1	***Establish a coordination and governance structure for cancer control in Cambodia***							
6.1.1	Establish and convene an Inter-ministerial Committee for NCD control (IMC-NCD) chaired by His Excellency Professor Mister of Health with clear terms of reference	√	√	√	√	√	√	DGH, MoH, Council of Ministers, IMC-NCD
6.1.2	Establish an office for a National Program for Cancer Control (NPCC) with clear terms of reference to lead the implementation of the NCCP under the guidance and oversight of the IMC-NCD. Immediately after the NCCP launching, a draft Prakas on the organization and functioning of the NPCC will be developed and processed for advice and approval by His Excellency Professor Minister of Health	√						DGH, MoH,
6.1.3	Establish and convene a National Cancer Technical Working Group (NC-TWG) with clear terms of reference and necessary cancer professional networks (Task Forces) to provide necessary technical guidance and support for national cancer control (as technical advisors to the NPCC)	√	√	√	√	√	√	NPCC, DGH, MoH, NC-TWG
6.1.4	Streamline the role of provincial Disease Prevention and Control Offices of the Municipal and Provincial Health Departments as a subnational supporting structure of the NPCC	√	√					NPCC, DGH, MoH Municipal and Provincial Governors and Health Departments
6.1.5	Monitor and evaluate the project implementation, progress and challenges, including inputs and activities as presented in Annex 1 and outputs, outcomes and impact as shown in Annex 2	√	√	√	√	√	√	NPCC, MoH, IMC-NCD, NC-TWG

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
6.2	***Strengthen stakeholder engagement and partnerships for cancer control***							
6.2.1	Organize a launching event to present the NCCP to all key stakeholders and mobilize their support for the NCCP implementation	√						NCCP development core group, MoH, Relevant partners
6.2.2	Conduct a stakeholder mapping	√						NPCC, MoH, Relevant partners
6.2.3	Strengthen participation of key stakeholders in the established coordination and governance structure as presented in Strategy 6.1 and through public, private and people partnership, including civil societies and cancer patients		√	√	√	√	√	NPCC, MoH, TWG-H IMC-NCD,
6.2.4	Develop and implement effective communication and consultation mechanisms to gather inputs, and mobilize resources for cancer control through the above coordination and governance structure for cancer control and Technical Working Group for Health (TWG-H)		√	√	√	√	√	NPCC, MoH, TWG-H IMC-NCD,
6.3	***Ensure adequate and sustainable financing to support the NCCP implementation***							
6.3.1	Mobilize financial resources and secure budget for the kick-off activities in 2025, in particular the budget for operation cost of the newly created NPCC and the baseline study	√						NPCC, MoH, Relevant partners
6.3.2	Conduct a costing study in 2025 to estimate the budget needed for the implementation of the NCCP with a table that includes estimated cost and potential sources of funding by strategy and strategic actions to be an integral component of the NCCP	√						NPCC, Working Group for Costing, MoH, Relevant partners
6.3.3	Advocate for increased government funding for cancer care with a possible ear-marked budget from increased excise taxes of tobacco and alcohol for cancer care, especially for cancer prevention, as part of a broader NCD financing	√	√	√	√	√	√	NPCC, DPHI, Finance Department, MoH,

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
6.3.4	Mobilize additional fund for cancer financing from various key stakeholders, including development partners, international organizations and foundations	√	√	√	√	√	√	NPCC, DIC, MoH, IMC-NCD CPC-TWG Relevant partners
6.3.5	Assess the possibility to create a Cambodia Cancer Foundation, chaired by a high-level political leader, similar to Cambodia Kantha Bopha Foundation		√					NPCC, MoH, MEF IMC-NCD CPC-TWG Relevant partners
6.3.6	Increase social health protection coverage for cancer care to remove financial barriers and ensure equitable access by • developing a list of essential cancer medicines, commodities and services (including screening, diagnosis and treatment, rehabilitative and palliative care) and • advocating for the inclusion in the benefit package to be reimbursed by HEF and NSSF's Health Care schemes	√	√					NPCC, DPHI, Working Group for Costing, MoH, GS-NSPC, MEF, MoLVT, MoSVY NSSF CPC-TWG Relevant partners
6.4	***Develop emergency preparedness for cancer patients and cancer control***							
6.4.1	Establish emergency plans and procedures for cancer care facilities, hospitals, and clinics to ensure continuity of care, especially for essential cancer care services, such as chemotherapy, radiotherapy and surgery, and integrate them into broader country emergency plans;		√	√				NPCC, MoH, TWG-H IMC-NCD,
6.4.2	Develop strategies to maintain access to essential cancer medications during emergency situations;		√					NPCC, MoH, TWG-H IMC-NCD,
6.4.3	Leverage the use of digital technologies to enhance communications, ensure ongoing specialist consultations through		√	√	√	√	√	NPCC, MoH, TWG-H IMC-NCD,

No.	Key strategies and strategic actions	Timeframe						Responsible institutions
		2025	2026	2027	2028	2029	2030	
	telehealth and monitoring of patients in the context of constrained physical access;							
6.4.4	Educate patients, families and caregivers about emergency preparedness specific to cancer, including creating personal emergency plans and understand local resources		√	√	√	√	√	NPCC, MoH, TWG-H IMC-NCD,

Annex 2: Monitoring and evaluation indicator framework

The monitoring and evaluation indicator framework, we focus on impact, outcome and to some extent output indicators. For inputs and process indicators, please refer to Annex 1: implementation matrix.

Goal	Indicators	Method of measurement and data sources	Targets		
			Baseline	2027	2030
Reduce the incidence of preventable cancers	Cancer incidence (crude and age-standardized rate) per 100,000 population	Numerator: Number of new cancer cases diagnosed during a specific year. This may include multiple primary cancers occurring in one patient in the site of origin, not metastatic site. Denominator: Number of the at-risk population for a given type of cancer in the specific year. For cancer site that occurs only in one sex (e.g. females for cervical cancer), the sex-specific population is used. Data sources: Estimate by Global Cancer Observatory/Population-based cancer registries once it is available	Crude incidence rate (2022): 115.3	5% reduction (110)	15% reduction (100)
Reduce the premature mortality from cancer by 25%	Unconditional probability (risk) of dying between ages 30-70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases	Numerator: Number of deaths between ages 30-70 due to the four causes, including cancer Denominator: Number of years of exposure Data sources: CRVS systems, population-based surveys with verbal autopsy	NA	10% reduction	25% reduction

Goal	Indicators	Method of measurement and data sources	Targets		
			Baseline	2027	2030
	Cancer mortality (crude and age-standardized rate) per 100,000 population	Numerator: Number of deaths due to cancer during a specific year in the population category of interest Denominator: Number of the at-risk population for a given type of population in that specific year Data sources: CRVS systems, population-based surveys with verbal autopsy and/or estimate by Global Cancer Observatory	Crude mortality rate (2022): 80.4	5% reduction (76)	15% reduction (70)
Increase cancer survival rates	Five-year cancer survival rates by type of cancer and by stage of diagnosis	Numerator: Number of people who have been diagnosed with cancer and are still alive five years after diagnosis or start of treatment Denominator: Number of people who have been diagnosed with cancer Data sources: Population-based and facility-based cancer registries	NA	10% increase	30% increase

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
1	***Improve primary prevention of cancers***					
1.1	Reduce the prevalence of current tobacco use among the population aged 18+ years at least 30%	Age standardized prevalence of tobacco use the population aged 18-69 years	Numerator: Number of current tobacco users aged 18+ years. Current users include both daily and non-daily users of smoked or smokeless tobacco Denominator: All survey respondents aged 18+ years Data sources: STEPS surveys, National Adult Tobacco Surveys	19.4% (2023 STEPS)	16%	13%
1.2	Reduce the harmful use of alcohol among the population aged 18+ years at least 20%	Age standardized prevalence of adults aged 18-69 years engaged in heavy episodic drinking	Numerator: Number of survey respondents aged 18+ years who engaged in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days). Denominator: All survey respondents aged 18+ years Data sources: STEPS surveys	24.5% (2023 STEPS)	22%	19.6%
1.3	Reduce the prevalence of insufficient physical activity and unhealthy diets	Age standardized prevalence of insufficient physical activity (<150 mn of moderate-intensity activity per week or equivalent) among the population aged 18-69 years	Numerator: Number of survey respondents aged 18+ years with insufficient physical activity. Denominator: All survey respondents aged 18+ years Data sources: STEPS surveys	9.3% (2023 STEPS)	8.5%	8%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		Age standardized prevalence of insufficient fruit and/or vegetable eating (<5 serving fruit and/or vegetables or 400 grams on average per day among the population aged 18-69years	Numerator: Number of survey respondents aged 18+ years with insufficient fruit and/or vegetable eating. Denominator: All survey respondents aged 18+ years Data sources: STEPS surveys	80.7% (2023 STEPS)	60%	40%
1.4	Reduce exposure to known infectious agents associated with cancer	HPV vaccination coverage among young girls (aged 9 years old)	Numerator: Number of young girls receiving HPV vaccination Denominator: All young girls in that specific age group Data sources: HMIS/NIP program data	NA	80%	100%
		DPT-HepB-Hib vaccination coverage	Numerator: Number of infants of specific age group receiving DPT-HepB-Hib Denominator: All infants in that age group Data sources: HMIS/NIP program data	99.3 (2023 Health Achievement Report)	100%	100%
		Hepatitis C detection and treatment rates	Data sources: HMIS/CDC	NA	60%	90%
2	***Improve secondary prevention of cancers through screening and early detection***					
2.1	Increase coverage of cervical cancer screening among women	Proportion of health centers offering cervical cancer screening services	Numerator: Number of health centers with staff trained (on cervical cancer screening) and necessary equipment and materials for providing cervical screening tests	63%	90%	100%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
			Denominator: All functioning health centers in the country Data sources: Health facility survey and/or routine data			
		Proportion of women aged 30-49 years who have ever had a cervical cancer screening test,	Numerator: Number of women aged 30-49 years receiving at least one cervical cancer screening test Denominator: All women aged 30-49 years Data sources: STEPS, other population-based surveys and/or HMIS	20.3% (2023 STEPS)	50%	70%
		Proportion of women aged 30-49 years identified with cervical precancerous lesions or cancer receiving treatment	Numerator: Number of women aged 30-49 years identified with cervical precancerous lesions or cancer receiving treatment Denominator: Number of all women aged 30-49 years identified with cervical precancer or cancer Data sources: HMIS and/or routine data	NA	60%	90%
2.2	Improve early detection of breast cancer among high-risk women	Proportion of women with breast cancer detected at stage 2 or below	Numerator: Number of women with breast cancer detected at stage 2 or below Denominator: All women confirmed to have breast cancer, including in situ	NA	30% increase	60% increase

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
			Data sources: Hospital-based and population-based cancer registry			
		Proportion of designated national and future regional hospitals having mammography services (available = having necessary human capacity and equipment to provide the service)	Numerator: Number of national and future regional hospitals with available mammography service Denominator: All designated national and future regional hospitals in the country Data sources: Health facility assessment and/or routine data	21%	43%	88%
2.3	Improve early detection of colorectal cancer among high-risk population groups	Proportion of people with colorectal cancer detected at stage 2 or below	Numerator: Number of people with confirmed colorectal cancer Denominator: All people with confirmed colorectal cancer in the country Data sources: Hospital-based and population-based cancer registry	NA	25% increase	50% increase
2.4	Improve early diagnosis of childhood cancers	Average time to diagnosis	Time between first symptoms and diagnosis Hospital-based and population-based cancer registry	NA	25% reduction	50% reduction
		Average time to treatment	Time between diagnosis and first treatment Hospital-based cancer registry and/or routine data	NA	25% reduction	50% reduction

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
2.5	Improve early diagnosis of cancers in the elderly age over 65 years	Proportion of the elderly with confirmed cancer diagnosed at stage 2 or below	Numerator: Number of elderly aged over 65 years with cancer diagnosed at stage 2 or below Denominator: All elderly aged over 65 years with confirmed cancer Data sources: Hospital-based and population-based cancer registries	NA	15% increase	30% increase
		Proportion of elderly with cancer receiving Comprehensive Geriatric Assessment (CGA)	Numerator: Number of elderly aged over 65 years with cancer receiving CGA Denominator: All elderly aged over 65 years with confirmed cancer Data sources: Hospital-based and population-based cancer registries	0	10%	30%
3	***Ensure sustainable and equitable access to timely and accurate cancer diagnosis services***					
3.1	Strengthen cancer diagnostic imaging and nuclear medicine	Proportion of referral hospitals with available x-ray and ultrasound services (available = having necessary human capacity and equipment to provide the service)	Numerator: Number of referral hospitals with available x-ray and ultrasound services Denominator: All referral hospitals in the country Data sources: Health facility assessment and/or routine data	NA	100%	100%
		Proportion of CPA3 referral hospitals with available CT-scan services (available = having necessary human	Numerator: Number of CPA3 referral hospitals with available CT-scan service	25%	57%	100%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		capacity, including distance reading services, and equipment to provide the service)	Denominator: All CPA3 referral hospitals in the country Data sources: Health facility assessment and/or routine data			
		Proportion of national hospitals with available MRI services (available = having necessary human capacity, including distance reading services, and equipment to provide the service)	Numerator: Number of national hospitals with available MRI service Denominator: All national hospitals in the country Data sources: Health facility assessment and/or routine data	33%	67%	83%
3.2	Strengthen cancer pathology diagnostic and laboratory medicine services	Proportion of CPA3 referral hospitals with available blood smear for cell morphology	Numerator: Number of CPA3 referral hospitals with available blood smear for cell morphology Denominator: All CPA3 referral hospitals in the country Data sources: Health facility assessment and/or routine data	NA	70%	100%
		Proportion of cancer specimens that are handled (correct and safe collection, transportation) according to SOPs	Numerator: Number of cancer specimens that are handled according to SOPs Denominator: Total number of cancer specimens collected and transferred to designated national hospitals for pathology diagnosis	NA	40%	70%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
			Data sources: Health facility assessment and/or routine data from designated national hospitals for pathology diagnosis			
3.3	Strengthen the availability and capacity of health workforce to support cancer diagnosis	Number of professional pathologists (those who are officially graduated or currently working as equivalent)	Numerator: Number of professional pathologists (those who are officially graduated or currently working as equivalent) Denominator: NA Data source: Routine data	19	24	34
		Number of professional radiologists (those who are officially graduated or currently working as equivalent)	Numerator: Number of professional radiologists (those who are officially graduated or currently working as equivalent) Denominator: NA Data source: Routine data	250	270	300
4	***Ensure sustainable and equitable access to timely and quality cancer treatment and care services***					
4.1	Promote the current national hospitals providing specialized cancer diagnosis and treatment to be Comprehensive Cancer Center (CCC)	Number of cancer centers promoted to be CCC	Numerator: Number of cancer centers promoted to be CCC Denominator: NA Data source: Routine data	0	1	1
4.2	Strengthen cancer treatment services	Proportion of CPA2 and CPA3 referral hospitals offering treatment of cervical pre-cancerous lesions (through thermal ablation and other	Numerator: Number of CPA2 and CPA3 referral hospitals offering treatment of cervical pre-cancerous lesions	95%	100%	100%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		surgical methods as recommended in the SOPs)	Denominator: Total number of CPA2 and CPA3 referral hospitals Data sources: Facility assessment and/or routine data			
		Proportion of designated national and future regional hospitals using the updated national guidelines/protocols for surgical oncology treatment of suspected malignant tumors	Numerator: Number of designated national and future regional hospitals using the updated national guidelines/protocols for surgical oncology treatment of suspected malignant tumors Denominator: Total number of designated national and future regional hospitals Data sources: Facility assessment and/or routine data	NA	70%	100%
		Proportion of designated cancer (treatment) centers applying MDT approach (those with a real and functioning MDT for cancer care)	Numerator: Number of designated cancer centers applying MDT approach Denominator: Total number of designated cancer centers	33%	90%	100%
		Proportion of cancers diagnosed in early stages	Numerator: Number of cancers diagnosed in stage 1 and 2 Denominator: Total number of cancers diagnosed Data source: HMIS, cancer registries	NA	40%	60%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		Proportion of cancer patients with indication receiving specific cancer treatment (with systemic therapy/ surgery, radiotherapy)	Numerator: Number of cancer patients receiving specific cancer treatment (with systemic therapy/surgery, radiotherapy) Denominator: Total number of cancer patients with indication for specific cancer treatment at the designated cancer centers and CCC Data source: HMIS, cancer registries	NA	80%	100%
		Proportion of cancer medicines in the national EML available at the designated cancer (treatment) centers	Numerator: Number of essential cancer medicines available at the designated cancer (treatment) centers Denominator: Total number of essential cancer medicines listed in the national EML Data sources: Facility assessment and/or routine (supervision) data	NA	90%	100%
4.3	Strengthen palliative, rehabilitative and survivorship services	Proportion of referral hospitals offering palliative care according to the National Palliative Care Guidelines/SOPs	Numerator: Number of referral hospitals offering palliative care according to the National Palliative Care Guidelines/SOPs Denominator: Total number of referral hospitals Data sources: Facility assessment and/or routine data	NA	40%	70%
		Proportion of referral hospitals offering physiotherapy (and other recommended rehabilitative services)	Numerator: Number of referral hospitals offering physiotherapy (and other recommended rehabilitative services)	NA	50%	80%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
			Denominator: Total number of referral hospitals Data sources: Facility assessment and/or routine data			
		Proportion of designated cancer centers and CCC offering psychological and counseling services for cancer patients and families	Numerator: Number of designated cancer centers and CCC offering psychological and counseling services for cancer patients and families Denominator: Total number of designated cancer centers and CCC Data sources: Facility assessment and/or routine data	NA	70%	100%
4.4	Strengthen childhood treatment, palliative, rehabilitative and survivorship services	Proportion of designated pediatric oncology centers offering nationally defined basic package of pediatric cancer case management services	Numerator: Number of designated pediatric oncology centers offering nationally defined basic package of pediatric cancer case management services Denominator: Total number of designated pediatric oncology centers Data sources: Facility assessment and/or routine data	NA	50%	80%
		Number of designated pediatric oncology centers promoted to be Comprehensive Pediatric Oncology Centers	Numerator: Number of designated pediatric oncology centers promoted to be Comprehensive Pediatric Oncology Centers Data sources: Facility assessment and/or routine data	0	1	1

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
4.5	Strengthen availability and capacity of health workforce to support cancer treatment and care	Number of professional medical oncologists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	20	27	35
		Number of professional onco-hematologists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	9	16	23
		Number of professional pediatric oncologists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	16	20	25
		Number of professional surgical oncologists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	9	15	25
		Number of professional radiation/clinical oncologists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	15	21	27
		Number of professional medical physicists (those who are officially graduated or currently working as equivalent)	Data source: Routine data	11	17	23
		Number of professional dosimetrists (those who are	Data source: Routine data	0	6	12

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		officially graduated or currently working as equivalent)				
		Number of professional radiation therapy technicians (those who are officially graduated or currently working as equivalent)	Data source: Routine data	30	40	50
		Number of professional nurses specialized in oncology (those who are officially graduated or currently working as equivalent)	Data source: Routine data	180	220	250
5	***Strengthen cancer information systems, surveillance, and research***					
5.1	Strengthen cancer registration	Number of (public and private) health care facilities with hospital-based cancer registries (as recommended by the Working Group for Cancer Registration)	Data source: Health facility assessment and/or routine data	NA	40%	60%
		Number of population-based cancer registries established with supported necessary infrastructure (as recommended by the Working Group for Cancer Registration)	Data source: Health facility assessment and/or routine data	0	Phnom Penh	Country-wide
5.2	Strengthen cancer data availability, quality and use	Proportion of health centers and referral hospitals reporting data on cancer risk factor	Numerator: Number of health centers and referral hospitals reporting data on cancer risk factor assessment, screening and referrals	NA	80%	100%

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
		assessment, screening and referrals (as indicated in HC1 and HO2 and recommended by NPCC/MOH)	Denominator: Total number of health centers and referral hospitals Data sources: Facility assessment and/or HMIS data			
		Number of national and subnational surveys that include key cancer indicators/variables	Data sources: NPCC collected data	NA	3 (STEPS, CDHS, CSES)	6 (the 3 national surveys and others)
5.3	Strengthen cancer research, innovation and technology	Proportion of national and provincial hospitals having an established research team able to conduct clinical and epidemiological studies, including cancer research	Numerator: Number of national and provincial hospitals having an established research team able to conduct clinical and epidemiological studies, including cancer research Denominator: Total number of national and provincial hospitals Data sources: Facility assessment and/or routine data	NA	50%	100%
6	***Strengthen governance, coordination and financing***					
6.1	Establish governance and coordination structure for cancer control	The governance and coordination structure for cancer control is established and operate as planned				
6.2	Strengthen stakeholder engagement and partnership for cancer control	Key stakeholders are mapped and engaged accordingly in the implementation, monitoring and evaluation of NCCP				

No.	Strategic objectives and strategies	Indicators	Method of measurement and data sources	Targets		
				Baseline	2027	2030
6.3	Ensure adequate and sustainable financing to support cancer service delivery and remove financial barrier to accessing cancer services	Budget needed for the implementation of the NCCP is estimated (a table with estimated cost and potential sources of funding by category and strategic actions, which becomes an integral part of the NCCP)				
		Budget and expenditure for cancer care by major sources (government, donors, HEF/NSSF, OOP and foundation)	Data source: Expenditure data from the NPCC and National Health Accounts			
		Proportion of cancer patients with financial support/reimbursement by HEF/NSSF	Numerator: Number of cancer patients with financial support/reimbursement by HEF/NSSF Denominator: Total number of cancer patients Data sources: Routine data	NA	50%	80%

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